

The National Locksmith®

April 2004
Volume 75
No. 4
\$7.00

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Interactive Car Opening Authority®

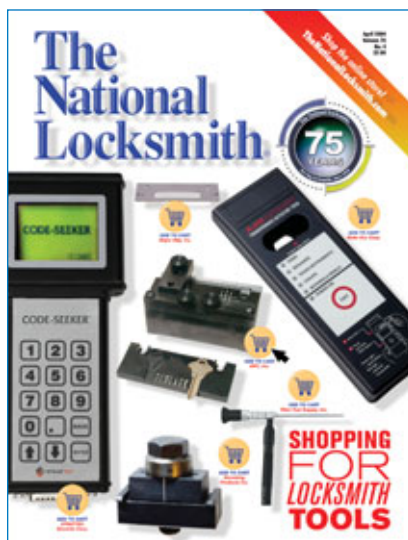
The 2004 models are on the streets, know how to open every one of them with the Interactive Car Opening Authority®. Opening techniques for the last 15 years (including 2004) of every car, truck, and SUV on the road with a few clicks of your mouse. The proven 13 methods of car opening are fast, efficient, and effective. Be ready for any lockout you are called to open!

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On The Cover...



There are some great new tools currently available, and STRATTEC, Kaba Ilco, HPC, Major Manufacturing, Titan Tool Supply, and Sieveking Products are just a few to choose.

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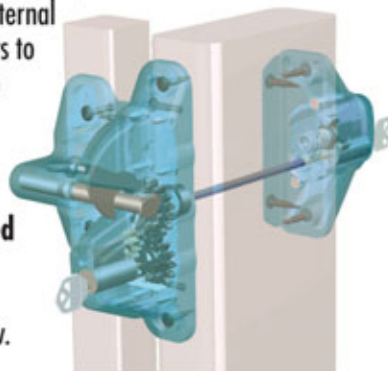
118 Test Drive

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LOKK•LATCH® PRO

Lokk•Latch® PRO is the most sophisticated **privacy and security gate latch** ever devised. It is *the* latch locksmiths and security businesses have been waiting for! This quality, two-part latch **can be operated and locked from either side of the gate!** It is uniquely constructed to work effectively in both residential and commercial gate applications. The "External Push-Button Access" component of the latch fits to the outside (i.e. street side) of the gate post to provide convenient key-lockable access.

It uses a standard 6-pin "key-in-knob" lock cylinder. This cylinder **can be keyed-alike, maison-keyed, master-keyed or replaced with high-security cylinder systems** such as Abloy, Assa, Kaba, Medeco, Mul-T-Lock or Schlage Primus...to name a few.



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- Lifetime Warranty (limited)



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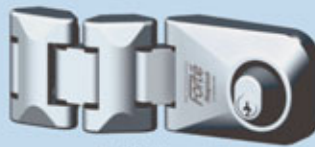
318-grade
Stainless Steel

Forté

Storefront, door, & storage security never looked this good



Single-Hinge model



Double-Hinge model

Forté HaspLocks (3 models) are designed for all types of storefront, door, gate and storage locking, either as add-on security for existing locks or as primary locks.



Face Mount
model



Side Mount
model

Forté PullBolts also use a standard 6-pin "key-in-knob" style lock cylinder which can be keyed alike, master-keyed, maison-keyed or replaced with high security systems such as Abloy, Assa, Kaba, Medeco, Mul-T-Lock, Schlage Primus...

"Hinged" model on vending machine

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Circle 312 on Rapid Reply



COMMENTARY



Let's Be Careful Out There, and Check ID

This is one of those stories we wish we would never have occasion to report. Sixty seven year old Locksmith Joseph Fette of Lawrenceville, PA was struck from behind by a sport-utility vehicle while standing at the back of his service van. Joseph was taken to Allegheny General Hospital in critical condition with internal damage and severe leg injuries. Police said he could lose both legs.



Police said the accident occurred when Raymond Massey, 70, of the North Side, was trying to turn around when he made a left onto Seabright from Federal Street Extension. Massey told police he hit a patch of ice and slid into Fette, who was either loading or unloading his locksmith van. The accident is under investigation. No charges have been filed at the time of this report.

Our hearts go out to this Locksmith and his family, and we hope for his speedy and full recovery. Our guess is that he was working out of the back of his locksmith van, as we must so often do, in an area where traffic was passing. Apparently the SUV spun out of control and hit the locksmith.

While we often cannot avoid working in busy areas, please be careful out there.

Just when you get used to it being the new Millennium something from the last one

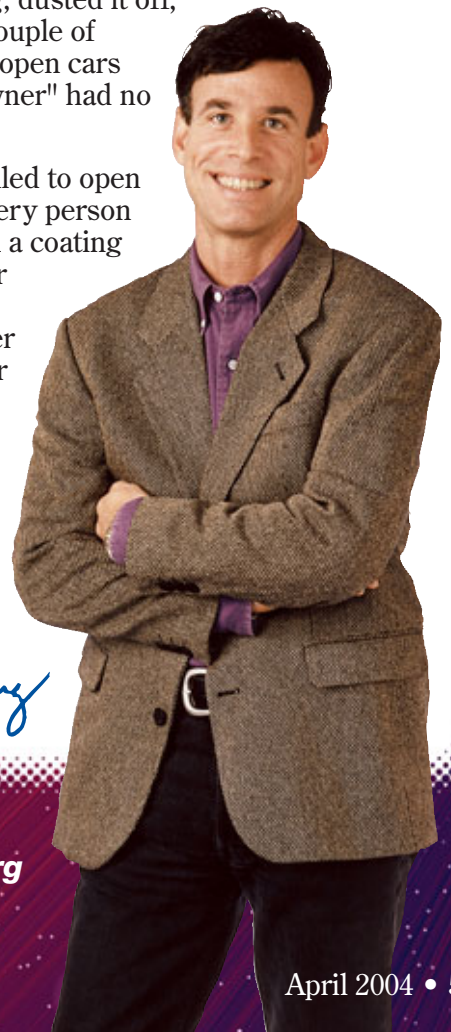
Marc Goldberg

comes back to haunt you. No, I don't mean that gladiators complete with real death battles have come back to Prime Time. Something almost as ancient HAS come back to television.

Sweeps are the time of year when television is being monitored very carefully for ratings. The ratings in that brief period are used to calculate advertising rates for the rest of the year. Local news programs would never be influenced by something as commercial as ratings right? Wrong.

Station KMBC in Kansas City, Mo recently dug into a dusty box in their basement labeled Old-Stories-That-Have-Been-Done-To-Death-Already. From that box they shoved aside the Man Bites Dog story. They pulled out the Locksmith Car Opening Sting, dusted it off, and set up a couple of locksmiths to open cars where the "owner" had no ID.

If you're called to open a car by a cheery person sneezing from a coating of dust all over them, ask for their ID. Better yet, remember to ask everyone.



**Have questions? Want free technical help?
Free Locksmith Forums!**

www.TheNationalLocksmith.com

Marc Goldberg
Publisher

Mango's Message

A New Force Behind 1-800-UNLOCKS

1-800-UNLOCKS, for those who don't know, is a nationwide automated dispatch locksmith network for automobile lockouts. Calls received on the toll free 1-800-UNLOCKS line from anywhere in the country are forwarded to the nearest authorized service member in that exchange. The theory is that 1-800-UNLOCKS is easy to remember, free for the customer to use, and would soon become a household name.

I first learned of this company back in 1997 and thought it was a tremendous idea then, and I still do today. Unfortunately, the initial business plan and marketing claims made by 1-800-UNLOCKS seemed unrealistic in my estimations (which proved to be true), resulting in a rather unflattering editorial by me in February 1999. Soon thereafter, 1-800-UNLOCKS changed the initial member investment requirements (dramatically reducing them), and discontinued the unobtainable marketing campaign claims. 1-800-UNLOCKS was soon on the right track and the company started to blossom.

Over the years, 1-800-UNLOCKS would periodically find itself swimming upstream, but it always survived the melee, ultimately finding the current and sailing on. That was, until a scathing letter from Laurie Kern about 1-800-UNLOCKS hit the pages of *The National Locksmith* in June 2003.

When I received that letter, I had also received a few phone calls during that same period from other disgruntled 1-800-UNLOCKS customers for various reasons, much of which was spurred by Mrs. Kern's web forum posts. I initially called Jeff Musser, president of 1-800-UNLOCKS for his comments on the claims being made against his company, and allow him the opportunity to give his side of the story. I did not receive a response to my call. After waiting what I felt was a reasonable period of time for a response, I printed the letter as is. Soon after publication, I received a not too happy phone call from Jeff Musser defending his position. After speaking with him I believe he had a legitimate argument against the letter by Laurie Kern, unfortunately his actions were a little too late.

Mr. Musser did say that at the time he was dealing with some serious family issues — apparently his mother had passed away, for which I felt really bad about. In an attempt to clear the air, I offered him the opportunity to

respond to any of the allegations against his company, stating that I would be glad to publish them, at which time he seemed very receptive to the offer, assuring me he would send something. I never did receive his response, and I soon learned why.

Several months later a message was left on my answering machine from a Mr. Barry Wilson, stating that he was the new owner of 1-800-UNLOCKS and wanted to discuss the changes at hand. After playing a little phone tag, we finally hooked up. As it turns out, Barry Wilson was a longtime silent investor to 1-800-UNLOCKS when Jeff Musser was at the helm. I also learned much more about Jeff Musser's family issues that he was dealing with when I spoke to him last. Apparently his mother didn't just pass away, she was murdered... by her husband.

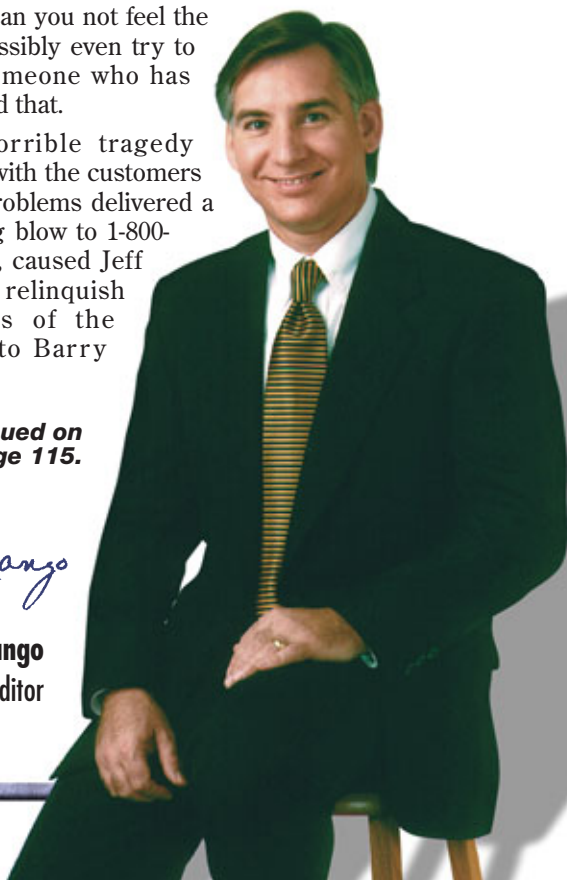
From what I learned, Jeff Musser's father (who was also a primary investor in 1-800-UNLOCKS) murdered Jeff's mother and then committed suicide himself. My heart just sank when I learned of this. How can you not feel the pain, or possibly even try to console someone who has experienced that.

This horrible tragedy combined with the customers relations problems delivered a devastating blow to 1-800-UNLOCKS, caused Jeff Musser to relinquish the reigns of the company to Barry Wilson.

**Continued on
page 115.**



Greg Mango
Editor





AUTO-SECURITY PRODUCTS

T-CODE

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your own
T-Code
software!**

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T-CODE-1C
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T-CODE-1F
FORD CAN SYSTEM (-'04)
\$450.00

T-CODE-VW
VW & AUDI SOFTWARE
\$600.00

T-CODE-1V
VW PINCODE READ
(on certain models)
\$315.00

T-CODE-CATERA
CADILLAC CATERA SOFTWARE
\$600.00

T-CODE-1M
MITSUBISHI
\$600.00

T-CODE-1H
HONDA-ACURA
--SYSTEM 123
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T-CODE-2H
HONDA-ACURA CAN
--SYSTEM 4 CAN
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E-MAIL: info@carlocks.com WEB SITE: www.carlocks.com

Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

Any Door Closer Books?

Like most locksmiths I look forward to each magazine. There is no end to the tips we all come across eventually. One question I have is, where can I find a book on door closures? Many times I have had to fix or replace one to complete the repair. Buying new ones is no problem, but many are repairable if I could just learn how. Surely I am not alone in this search.

Could you please advise me?
(260) 758-8323.

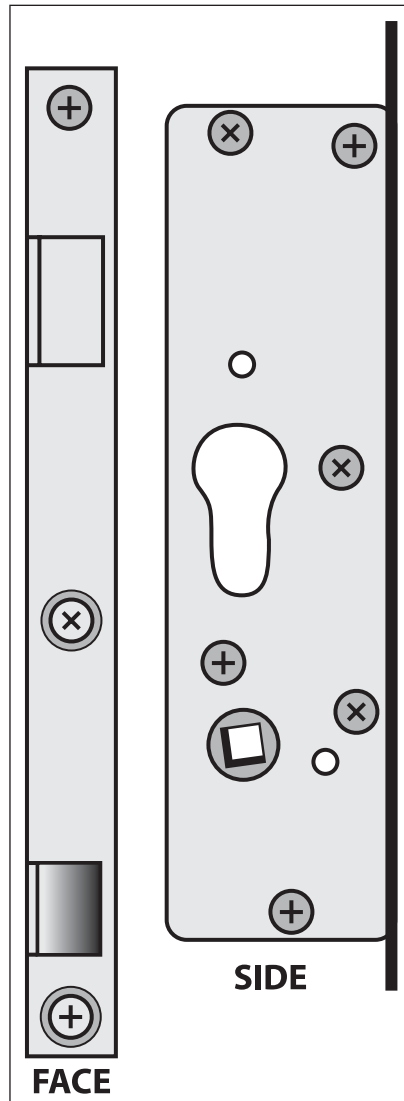
Richard Berry

Unknown Locks

I have been trying to find these locks complete or just the body, as shown, without any luck. Maybe someone can help me locate a source.

I can be reached by e-mail at:
realok@candw.ky

Mark Smith
Cayman Islands



Unknown Safe

I have researched my past issues of *The National Locksmith* and found no references to this particular safe. My Cole references show that miniature, Center Mfg. type locks are used. After drilling a hole through the edge of the container (1-1/2" from the front) and into the door, it was revealed that this lock was not used. What I saw with



my scope appeared to be a spindle tube. I then concluded that the lock would be a 6730 S&G type lock and could be attacked as such. Attempts to pull the dial and drill for a VD configuration failed. The dial would not pull with reasonable force. This led me to an impasse. Without specific servicing information I am at a loss to open this safe. Anyone that can be of assistance I would appreciate any help you can offer. I can be reached at: (360) 929-5650.

R.W. Staples
Washington

TNL



The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107
Attn: Editor

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Circle 305 on Rapid Reply



STRATTEC

EXPANDS

AUTOMOTIVE LOCKSMITH SERVICES

STRATTEC SECURITY CORPORATION has recently launched STRATTEC XL (Xtended Line) automotive keys and tools, and is focused on identifying and executing tactics to meet the demands within the ever-evolving automotive market.

STRATTEC XL is a broadening of the aftermarket product line for STRATTEC. XL stands for Xtended Line and represents the umbrella under which the expanded lineup of keys and tools, including QUICK-CODE™ and CODE-SEEKER™, will be marketed. The extension illustrates STRATTEC's commitment to add quality products to their line and to continue to build profitable partnerships with distributors and locksmiths.

STRATTEC introduced their first wave of import and domestic transponder and standard keys this past summer. STRATTEC XL keys are designed and built using the same quality components and standards as their OEM products. *(See photograph 1.)* This results in an aftermarket automotive key that has the look and feel of original equipment. The addition of these keys to the line gives STRATTEC a key product line that can service more than 90 percent of the vehicles on the road.

Future Opportunity For Locksmiths

Through STRATTEC's extensive interaction and research with locksmiths and their distributors, several barriers were identified that are keeping locksmiths from cashing in on opportunities in the automotive market. These barriers include the costs and risks associated with investing in diagnostic tools. Because a majority of locksmith customers are small business owners, cash is king and they need to be able to predict their costs. Initial investment outlay required for a diagnostic tool is prohibitive, and the cost of upgrades is high and unpredictable. There are also questions surrounding support and training.

STRATTEC is working to help locksmiths understand the potential in the new automotive world.

Because of STRATTEC's position as the original and leading OEM provider of locks and keys in the new car market, they know the size and scope of the automotive aftermarket. Almost 70 percent of all new vehicles sold in the U.S. market offer transponder keys. When factoring in a market where there are more than 200,000,000 vehicles in operation, this is a huge market for profit-packed, transponder and other technologically advanced entry systems. Locksmiths stand to profit both from the number of transponder keys on the market, and the fact that the new transponder technology represents high price points, margins and



1. STRATTEC XL keys are designed as their OEM products.

Brighter Future with New Tool Technology

STRATTEC recently showcased the QUICK-CODE™ Cloning Tool and has begun delivering the all-new STRATTEC CODE-SEEKER™ Diagnostic Tool. Each tool delivers STRATTEC's OEM quality with affordable pricing and is backed by industry-leading sales support, customer service and product training programs.

"We are receiving powerful feedback from a large part of the industry," said STRATTEC Service and Aftermarket Customer Business Manager Kevin Schumacher. "Users close to this business realize how rapidly products of this nature change. These tools were developed in response to these constant changes."

CODE-SEEKER

Addressing the ever-changing needs of the market, STRATTEC launched the CODE-SEEKER Diagnostic Tool, recognizing that an effective way to expand key sales was to deliver a quality, affordable tool directly to the locksmiths. *(See photograph 2.)* Locksmiths are reluctant to invest in tools because of the lofty price point and the unpredictable costs for upgrades. In early 2004, STRATTEC began offering the all-new CODE-SEEKER to locksmiths at a substantial discount (\$4399). This is a full-function product, not a stripped-down version. They are coupling this with an aggressive promotion to drive more sales of keys through their distribution channel. STRATTEC is sharing the investment costs and delivering a comprehensive marketing program that will help locksmiths manage costs and increase revenue that will ensure growth of their automotive key business.

When asked about the different approach to the market, Schumacher offered, "We are convinced that this is the most effective way to get the CODE-SEEKER out. We do realize that we are stretching the envelope a bit." Schumacher went on to add that "The bundling of these tools and high-value transponder keys promotes the success of all of our channel partners."

For the first year, STRATTEC is offering any locksmith purchasing the CODE-SEEKER free software upgrades, including the new Chrysler upgrade, through the entire 2004 calendar year. Locksmiths may then subscribe to unlimited annual upgrades for the next two years at a fixed cost of just \$499 per year beginning in 2005.

Other savings for locksmiths include a Transponder Key Upgrade Credit program. Basically, the locksmith can reduce the cost of future upgrades by purchasing transponder keys through an authorized STRATTEC distributor. For every

Continued on page 14



**2. The all-new STRATTEC CODE-SEEKER™
Diagnostic Tool.**

service-call revenue. With the increase in retail values of the new replacement keys of \$50 and more, locksmiths would have to cut a lot of two-dollar keys to make the same amount of revenue.

Locksmiths who have prioritized the automotive market are making more money there than they ever have. Ultimately, STRATTEC feels that the industry needs to do a better job of educating locksmith partners through distributors - especially about how to build and grow their automotive business.

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on car
openings,
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1-800-323-8324



3. The CODE-SEEKER fits comfortably in the operator's hand.

STRATTEC transponder key that a locksmith buys, STRATTEC will credit \$1 toward the cost of the next year's upgrade subscription (up to \$499).

CODE-SEEKER has all the same features as other diagnostic tools on the market and is fully upgradeable. It has a slim line design that is easy to use and fits comfortably in the operator's hand. It connects to the vehicle's OBD-2 or similar port. (See photograph 3.) The CODE-SEEKER also comes with a manual that is equipped with an Instant Port Identifier feature, enabling the operator to quickly identify the port in the vehicle. (See photograph 4.) Intuitive by design, CODE-SEEKER can add, erase and program keys, as well as indicate how many keys have been programmed to the vehicle. For specific vehicles, the

tool actually retrieves the immobilizer number that allows the operator to obtain the vehicle PIN from the manufacturer. (See photograph 5.)

CODE-SEEKER is equipped with an expandable database that will accommodate new vehicle systems as they become available. STRATTEC offers free 24/7 live tech support for CODE-SEEKER owners. CODE-SEEKER is packaged with all the necessary adaptors and cables in one of the best carrying cases in the business. For CODE-SEEKER, the break-even point is about 29 jobs using an average consumer cost for the service and programmed key of \$175.

QUICK-CODE

STRATTEC introduced QUICK-CODE to answer a need in the marketplace for a dependable, versatile and affordable cloning tool. The tool duplicates the transponder's permanent code, and also identifies the presence of encrypted transponders. QUICK-CODE combines the latest, most innovative electronic components with industrial-design ergonomics like a side-fitted antenna that allows keys to be read without removing them from their key rings. QUICK-CODE is also extremely versatile and comes with USB and RS232 interface for computer link up allowing for simple high-speed data transfer to your PC.

The QUICK-CODE comes with free upgrades for the life of the tool and 10 FREE STRATTEC transponder keys just for registering the purchase. Payback for locksmiths on the QUICK-CODE, based on an average consumer cost of \$50, can be met with only 17 jobs.

DaimlerChrysler Update

In other news, STRATTEC has announced the immediate availability of a family of private (STRATTEC) logo keys to service the Chrysler family of vehicles. Marketed under the STRATTEC XL brand, these key products replace the existing Chrysler-logo parts.

Current Part 593578	Use 692355
Current Part 594145	Use 692350
Current Part 595293	Use 692350
Current Part 595895	Use 692347
Current Part 595917	Use 692347
Current Part 596504	Use 692351
Current Part 596508	Use 692351
Current Part 690500	Use 692351
Current Part 690220	Use 692351
Current Part 597358	Use 692351
Current Part 691388	Use 692351
Current Part 597121	Use 692346
Current Part 690230	Use 692346



4. The CODE-SEEKER comes with a manual that is equipped with an Instant Port Identifier feature.

Current Part 690231Use 692346
 Current Part 599312Use 692346
 Current Part 690503Use 692346
 Current Part 598495Use 692325
 Current Part 690222Use 692325

Current Part 690504Use 692325
 Current Part 690223Use 692325
 Current Part 599455Use 692325
 Current Part 690226Use 692354
 Current Part 599450Use 692354
 Current Part 690653Use 692353
 Current Part 690654Use 692353
 Current Part 691718Use 692352
 Current Part 691729Use 692352



5. The CODE-SEEKER can add, erase and program keys.

DaimlerChrysler has decided that all products that carry their Chrysler logos, including keys, should be available only at the dealer. After a short transition period, STRATTEC will only supply the STRATTEC branded XL keys to the market.

With it's sights on the future, STRATTEC has customer-focused teams working closely with their network of distributors. They continue to invest in new product development and funding for emerging technology areas that help grow the aftermarket business, and contribute to the success of their locksmith distribution partners.

For more information contact STRATTEC Security Corp. at: Phone: 414-247-3333; Fax: 414-247-3329; Web : www.strattec.com. Circle 355 on Rapid Reply.



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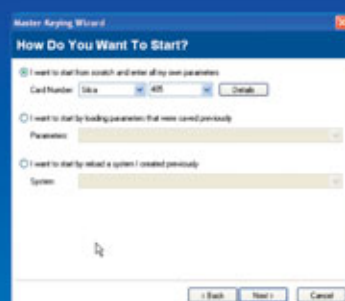
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Design a grand master system and send it right to your electronic key machine!



Create a Master Key System, first window.

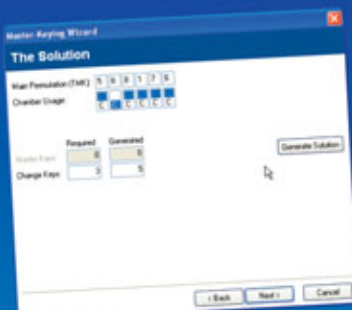


How do you want to start?

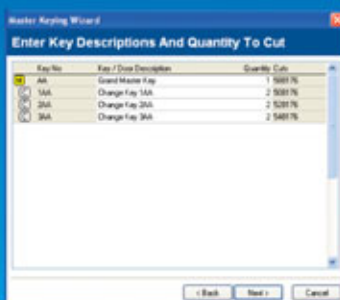
Main permutation.



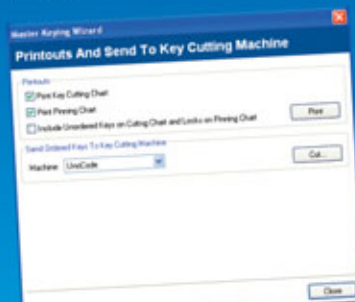
The solution.



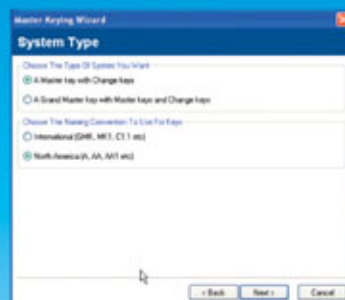
Modify parameters.



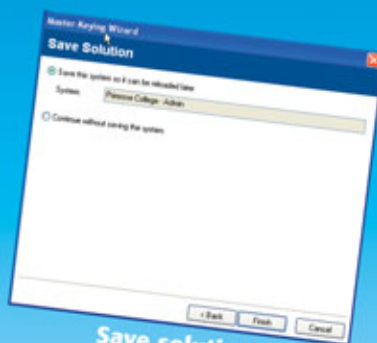
Key descriptions and quantities to cut.



Printouts and send to key cutting machine.



System type.



Save solution.

W.H. Software

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FEATURE	InstaCode	The Competition	FEATURE	InstaCode	The Competition
SEARCH OPTIONS			FUNCTIONALITY		
Code number	✓	?	Add your own code series	✓	?
Manufacturer	✓	?	Make your own code cards	✓	?
Model and year	✓	?	Master keying Module included	✓	?
Key blank	✓	?	Build a grand master keying system and download it to your electronic machine	✓	?
Card	✓	?	Password protection available	✓	?
Lock type	✓	?	Sort key blanks into desired order for display	✓	?
Search on any combination of criteria	✓	?	Find partial biting	✓	?
DATA			Progression chart to eliminate wastage	✓	?
6000 series • 2.5 billion codes	✓	?	Shows picture of cut key	✓	?
99 key blank manufacturers	✓	?	Stores key hook for each key blank	✓	?
Key blank cross reference	✓	?	Stores client information	✓	?
Key blank profile pictures	✓	?	Stores user notes against each series	✓	?
Key blank pictures	✓	?	Supports laser and plunge cut keys	✓	?
Vehicle opening instructions	✓	?	Your choice of display units (inches or mm)	✓	?
Transponder programming instructions	✓	?	Select manufacturer, model, key blank, etc from list by typing in first few characters	✓	?
Complete ASP catalog with color pictures	✓	?	PRINTING		
Airbag safety instructions	✓	?	Print HPC Cards	✓	?
Lock wafer positions	✓	?	Print a whole series	✓	?
ELECTRONIC MACHINES			Print the current code and it's data	✓	?
Silca UnoCode	✓	?	Configurable printer and printer paper tray	✓	?
Silca UnoCode 299	✓	?	Choose letter or A4 size paper	✓	?
Silca UnoCode 399	✓	?	THE SOFTWARE		
Ilco UltraCode	✓	?	Cad Cam drawing of key graphically shows depths and spaces	✓	?
ITL 9000	✓	?	Intuitive user interface	✓	?
ITL 950	✓	?	Live updates from the Internet	✓	?
CodeMax	✓	?	Supports mouse and keyboard	✓	?
ECM 200	✓	?	Microsoft Windows application	✓	?
MANUAL MACHINES			Licensed to run on 5 machines in the same office	✓	?
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LOCKSMITH TOOLS

We've all heard the saying; The one with the most toys wins! When it comes to tools, that couldn't be truer. The more tools you have in your arsenal, the more you can accomplish. The more you can accomplish translates into, the more money you can make. That alone makes all those widgets, gadgets and tantalizing new tools all the more valuable. Not to mention how much easier the right tool for the job will make your life. Greatly reducing those incidental accidents that occur when using an improper tool for the situation.

Lockmasters, Inc. LOX-OFF® Lock Opening Kit

Simply put, LOX-OFF can make the difference between looking like a lock butcher or a lock surgeon. LOX-OFF helps you precision drill locks open safely. This system helps you open a multitude of locks including padlocks, doorknobs, lever locks, keyless locks and more, eliminating the need to drill free-hand. It can also be used on rekeyable padlocks so that they can be rekeyed and repaired.



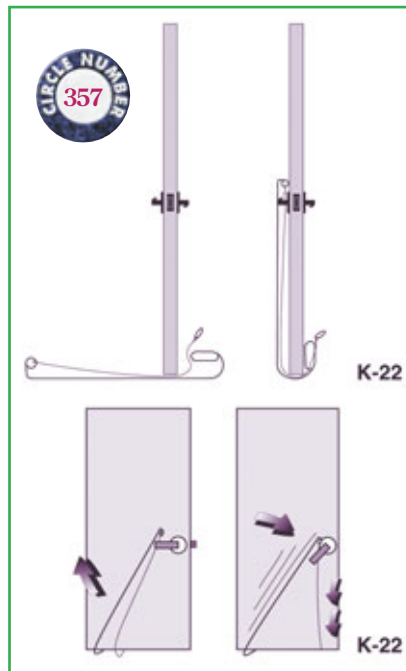
The tool is so precise that you can precision drill the lock plug and not damage the lock cylinder or vise-versa. The hard drill guide bushings prevent drilling your hand. Available exclusively from Lockmasters, Inc.

Keedex K-22 Lever Opening Tool

If you can slide this tool under the door, you can open it! The K-22 Lever Opening tool is invaluable for lockouts involving lever locks. Especially important for situations involving locks that have malfunctioned or that are pick resistant. This tool can save precious time and valuable hardware. This was dramatically illustrated shortly after the prototype for this tool was developed.

Keedex received a call from a manufacturer's representative, who was pleading to borrow the K-22. You see, he had sold an electronic locking system to a new hotel. Several of the locks had malfunctioned, blocking access

to the rooms, and the hotel was to have their "sold out" grand opening in just two days. The bypass keys were ineffective. With the K-22 in hand, they were able to gain access to the rooms, and service the locks before the hotel opened.



Titan Tool Extended Length, Low Cost Borescope

This new scope is said to be especially useful in the inspection of tumbler assemblies in large safes

Continued on page 21

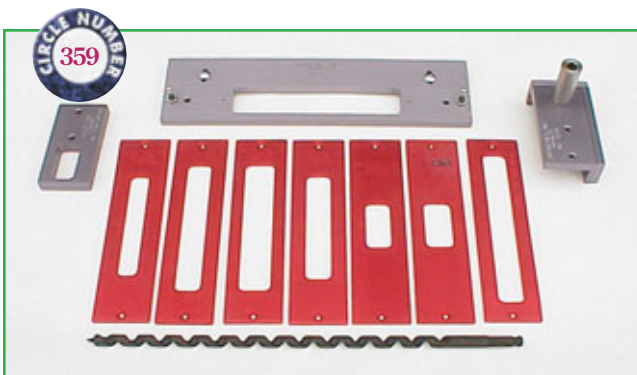


having apertures, which can accommodate the narrow (less than 1/4") viewing tube. The borescope is available in lengths of 6" and 12" with 90° angular-viewing. The Model 55 Series provides locksmiths with an unusually large field of view of 95°. The borescope features complete, self-contained illumination provided through a 5.5mm (.217") optical tube that is 12" long, equipped with a Krypton high-intensity light bulb, and powered by two AA batteries. The illumination is carried forward to the viewing area by glass fibers surrounding the lens system.

The lens system includes an arrow for use in alignment to a selected point. Optionally available is a fiber bundle and halogen light source adapter, which provides a variable controlled, high intensity light source. Other unique features of the Series 55 Borescope include: focal point adjustment from 1mm (.040") to infinity; a magnification from 14X at 1mm (.040") to 3X at 15mm (.590") to 1X at 50mm (1.96"); a 10° to 103°F operating temperature range.

Major Manufacturing HIT-33 Template System

A new router template installation system has been introduced by Major Manufacturing. The HIT-33 series features a main template base that mounts to the door edge using drill screws or double headed nails. This base component serves as a platform for interchangeable routing templates for the installation of knob, deadbolt and mortise lock faceplates. In



addition, the HIT-33 series can also route openings for extension flush bolts with 1" or 1-1/4" wide faces. A carbide tip drill and guide is also available to drill from the top of the door to the flush bolt.

Sieveking Products Squeeze-Play

Sieveking Products Company has made changes to the Squeeze-Play hollow metal door mortising tool. The Squeeze-Play tool will mortise 90% of the edge seamed hollow metal doors found in the residential and commercial market. Improvements have been made to the automatic center punch features, which will increase the depth of the punch marking. Squeeze-Play automatically locates and punches the locations for the square face bolt mounting screws.

SQUEEZE-PLAY™

THE HOLLOW METAL DOOR MORTISER

Features:

- Easy to Use, insert the tool & tighten the bolt to form a perfect square mortise every time
- Perfect Alignment, automatically center punches the location of mounting screws
- Hardened Chrome Molly Steel construction
- "Grade 5" Hardened Bolt & Quality Thrust Bearing
- For edge seamed steel doors up to 12 gauge
- For 2-1/4" x 1" or 2-1/4" x 1-1/8" square face bolts
- Black Oxide Coated for rust resistance

Fast, cuts installation time by two-thirds, with no loss of structural integrity

Reduces the cost of installation, eliminates the need cut the door or use internal bridges

Saves Time... Saves Effort... Increases Profit

<http://www.sievekingprodco.com/>

Squeeze-Play will mortise 1-3/4" doors, and mark mounting locations for 2-1/4" x 1" and 2-1/4" x 1-1/8" square face bolts, eliminating the need to cut the door or use internal bridges. The mortise is made with no loss of the doors structural integrity.

Ilco TD3A Transponder Detector

Do your customers drive Ford® F-150's, Dodge® Caravans or Honda® Civics? If so, they are going to need replacement Transponder keys in the near future. When a potential customer enters your store and requests a new F-150 key will your staff be prepared? Ilco's TD3A Transponder Detector is a hand held tool, capable of detecting the presence of a Transponder chip within the head of an automotive key and identifying the chip to the operator. The TD3A is very easy to operate; the user must simply insert an automotive key into the proper slot, and then depress and hold the "Test" button. If a Transponder is present, a red LED will flash beside the name of the manufacturer of the chip. If a Transponder were not present, no LED would flash.

The TD3A device allows key cutters to quickly and accurately identify whether or not a customer's automotive key contains a Transponder, once this



has been established the key cutter can determine if they wish to cut the key or not. Establishments not equipped with Transponder key-programming equipment may wish to simply refer the customer back to a automotive dealership instead of wasting a \$15-\$18 blank and creating customer frustration.

HPC Stamp Aligner XL

The Stamp Aligner XL (SA-7XL) is twice as quick and holds twice as much as the original Stamp Aligner. Crooked numbers, stamps flying across the room and numbers that go up, down,



and all around, are a thing of the past. The main housing of the Stamp Aligner XL holds the stamps for you, so the figures may be stamped on keys in a straight line with even spacing between characters. The Universal Plate is designed to quickly swap out and securely holds two keys for stamping. Removing the plate exposes two openings designed to hold rim or mortise cylinders so they can be stamped as well. Plus, additional specialty plates are available for quick snap-in locking of Schlage keys and Best IC keys and cores for even faster stamping.

Whether stamping a name on one key or codes on multiple keys and cylinders in a master key system, you will find that the Stamp Aligner XL will pay for itself over and over again.

Gil-Ray Tools Sharpens Dull Cutter Wheels

Gil-Ray Tools offers a mail in sharpening service for dull cutter wheels. As an original equipment manufacturer for many of the more popular key machine companies, Gil-Ray has over 58 years experience in sharpening. At Gil-Ray, dull key cutters can be sharpened up to 6 times before replacement is needed. Because every cutter is matched to the OEM blueprint specifications, cutters restored by Gil-Ray work good as new.



All key cutters can be sharpened including... Code Cutters, Duplication Cutters, Flat Slotters and End Mills. Gil-Ray also offers new replacement cutters direct to Locksmiths. Recent additions to their inventory include, Code Cutter wheels for HPC, Framon, Kaba Ilco machines. Precision Metric Duplicating Cutters for Bollini, Borkey, Bravo, Rytan and Taurus machines.

ASP Transponder Programmer

After a long period of testing and use in Europe and England, T-Code made its US debut in May of 2003 through ASP and their broad line of distributors. The unit has gained wide acceptance due to its excellent technology and technical support. The T-Code programming

machine allows the locksmith to program transponder keys for Audi, VW, Cadillac, Catera, Chrysler, Ford USA, Honda, Mitsubishi, Nissan and Infinity; with many more to come. T-Code also features full programming function for all Ford USA PATS and CAN systems. Complete instruction book and free telephone tech support are also included with every unit.



PRO-LOK LT371 4-Piece Follower Set

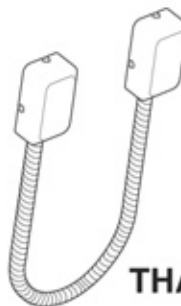
This deluxe follower set contains four different colored aluminum follower tools. These brightly colored followers allow you to easily identify the proper diameter tool that you need. Two standard size followers, one small and one large diameter combine to offer a set that will service almost any pin tumbler lock. The small diameter follower (Part# LT371-395) has a .395 diameter and is used for most small pin tumbler rekeying jobs. Uses include: Corbin small pin, Eagle small pin, Yale small pin, Ilco "peanut" cylinders and others.

The first standard size follower (Part# LT371-495) has a .495 diameter and two different end configurations. It is used for Arrow, Schlage, Kwikset, Corbin & Russwin, Ilco, Eagle, Lockwood, Sargent, Weiser and others. The second standard size follower (Part#



KEEDEX

Armored Door Loops



More sizes: 1/4" & 3/8".

More lengths: 18, 24",
30", 45" & 60".

More colors: Aluminum,
Duro, Gold, Black & White.

THAN ANY OTHER BRAND!

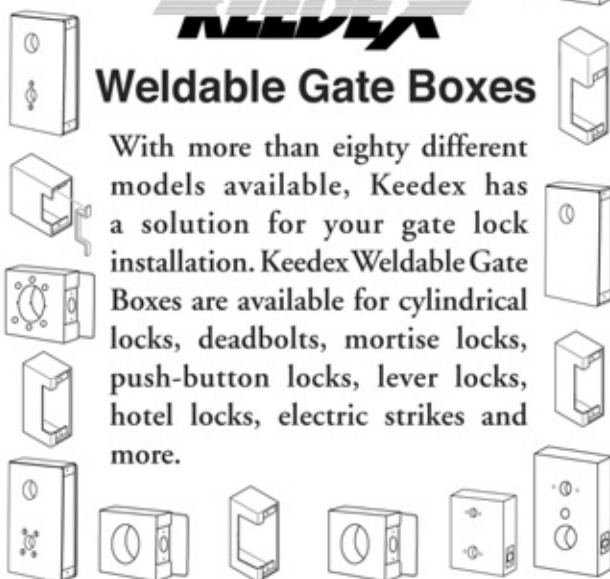
**Now Available: Keedex K-DS
All Stainless Steel Door Loop.**



KEEDEX

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With more than eighty different models available, Keedex has a solution for your gate lock installation. Keedex Weldable Gate Boxes are available for cylindrical locks, deadbolts, mortise locks, push-button locks, lever locks, hotel locks, electric strikes and more.



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Our Keedex K-24 cylinder guard ring runs circles around the competition. Both in performance and value. The K-24 is made of hardened steel, with a durable powder coat finish. The Keedex cylinder guard ring features a deeper design, allowing you to use it with a wider range of cylinders.



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www.keedex.com

LT371-500) has a .500 diameter and has two different end configurations and is used for Ilco, Keil, Eagle, Lockwood and other rim cylinders. The oversize follower (Part# LT371-555) has a .555 diameter with two different end configurations. It is used for Corbin & Russwin oversize commercial-industrial cylinders and others.

Hinge Tweaker

The Hinge Tweaker is a tool designed to re-bend standard weight .134 gauge hinges to enable a door to operate correctly. The tool works by placing it over the hinge knuckles of the bent hinge while the door is closed. The hinge is bent slightly by pushing



the Hinge Tweaker toward the doorknob/lever side of the door, and the procedure is repeated until the door closes properly. The re-bending technique is intended to be a time and labor saving device for locksmiths and facility managers looking for a more effective means to repair doors.

Bad Dog Tools Drill Bits

Locksmiths might be the modern day equivalent to a knight in shining armor - as far as your customers are concerned. An emergency call to a locksmith typically means something's gone wrong: A malfunctioning lock or broken key, a disgruntled employee with a full set of keys, or the forgotten combination to a safe. Just as knights of old relied on a staunch sword, modern-day knights must choose their tools with equal care. You can't be a hero if you don't fix the problem and you can't fix a problem if you don't have the right tools. What's a knight to do? Carry tools that multi-task.

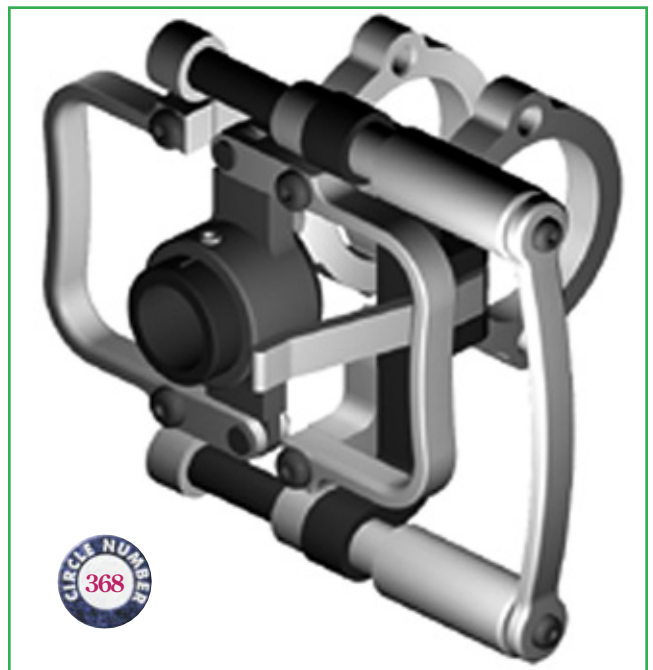
Bits that drill multiple materials like Bad Dog Tools Multi-purpose drill bits make being a hero



easy because they work as well in metal as they do in masonry or wood. This multiplicity lightens a toolbox and provides more options at site when you haven't received much background information. While Bad Dog bits drill more slowly in metal than a traditional twist drill bit, they can tackle much harder metals like tempered or high-speed steel. The hex shank bits come with a quick-change chuck that makes switching swords, ahem, bits a breeze.

Locktools.com Wild Jig

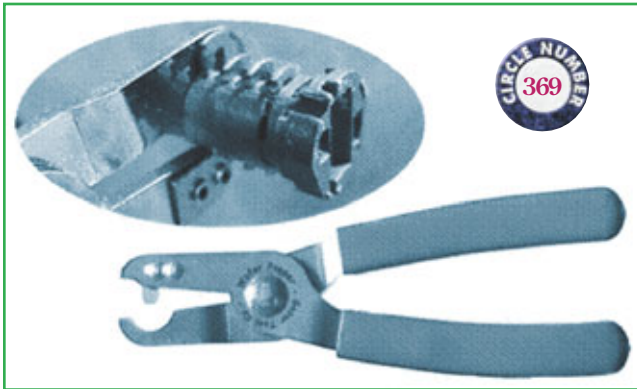
Are you frustrated with the effort it takes to set up, drill, and install locks? Do you find yourself spending wasted time with complicated clamp systems, spacing plates and set-up requirements? Are you tired of using clumsy installation jigs that cost you time and money? The solution to these headaches is the Locktools installation jig series. Their three jig series, the Wild Jig 1, Wild Jig 2 and TimeSaver Jig are all designed by a locksmith for locksmiths. Set up time is drastically reduced, the jigs are accurate, rugged and come with limited lifetime guarantees. The Wild Jig 1 quickly and smoothly bores holes for commercial and residential cylinder locks and deadbolts.



The Wild Jig 2 mortise jig's patented grip-lip centering system assures limited set-up time and accurate cutting. A quick-change interchangeable plate mechanism allows for fast efficient changeover for different mortise lock installations. The TimeSaver Jig accurately drills holes for all anchor plate lugs, through bolts, and electric wire ports for various types of commercial door hardware. All jigs are held on the door using a patented spring-loaded holder.

Gator Tools Wafer Popper

If it's not in your toolbox, you're damaging locks. The Wafer Popper was developed to help in the removal of stuck or peened wafers. This process can be a circus act, trying to juggle the lock, screwdriver and hammer all with just two hands. Have you ever lost a wafer, broke a lock or got your screwdriver stuck in the core? Not anymore. One hand holds and squeezes the tool; the other hand catches or rotates the lock. This tool works so well we fit a slogan to match the speed, "Click...Click...Click...It's just that quick".



The tool can do the standard locks or the offset wafer equally as well. The handles are cushioned for comfort, torsion spring for one handed use and nickel-plated for weather resistance and durability.

Lab Annex IC Tool

The stainless steel LAB Interchangeable Core Annex offers the simplest method for the loading and unloading of interchangeable core pins, springs and caps, using only one instrument for both functions. A second time saving feature is a slide out codebook below the area where the core is slid in place. This allows the user to unload the core pins, springs and caps into a confined area without spilling the parts in or around the work area. The slide out codebook is also used to decode the core to determine the bitting of the control key when it is not available and also determine the top master key bitting.



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AKCOM00 Complete Kit



Cloth Case! 8" x 30" closed

Never be without the right tool again! When you just can't get your fill of car opening tools, get the Complete Tool Kit. This kit contains one of each of our car opening tools; 5 slim jims, 7 MCOT tools, long reach tool and all of our specialty tools along with a selection of wedges in our deluxe zippered cordura cloth case with divided sections inside and sturdy handles for carrying and a tool instruction booklet. 47 piece set.

Tools: A001, A003, A004, A007, A010, A011, A012, A013, A014, A016, A017, A018, A020, A021, A025, A026, A029, A031, A032, A030, A033, A034, A035, A036, A037, A038, A039, A040, A041, A042, A042 SL, A043, A044, A045, A047, A048, A049, A084, A085, A0C0
Book: A095 **Case:** A056 **Wedges:** A060, A061, A063

Tools shown in Yellow indicate Xacto-Grip design

AKLM00 Late Model Kit



Cloth Case! 8" x 30" closed

When you're in the auto opening business, you've got to keep up with the changes manufacturers make to the vehicles. Don't let those new vehicles scare you. The selection of tools in this kit allows you to open late-model vehicles easily. The Late Model kit contains all of the tools used in our Car Opening Manuals from 1995 to 2000. This kit comes in a deluxe zippered cordura cloth case with divided sections inside and sturdy handles for carrying and a tool instruction booklet. 34 piece set.

Tools: A001, A007, A010, A012, A014, A018, A021, A025, A029, A031, A032, A033, A034, A035, A036, A037, A038, A039, A041, A042, A042 SL, A043, A044, A045, A047, A048, A049, A084
Book: A095 **Case:** A056 **Wedges:** A060, A064

Tools shown in Yellow indicate Xacto-Grip design

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There Is No Comparison

FINDING SOLUTIONS

Tools Are Either Too Big Or Too Weak

Over the last few years, car manufacturers have increased the quality and materials used in making car doors. Their efforts have created tighter doors and less space between the weather stripping and the glass. The tightness created has made it increasingly difficult to insert your car opening tools between the glass and weather stripping in order to lower the tool into the door cavity. When you are able to insert your tool, it becomes more difficult to maneuver your tool around due to tightness. The solution sounds simple. Make tools thinner to make them easier to enter the door cavity, right? The problem then becomes the strength of the tool. By making the tool thinner the tool loses its stiffness and strength. Without the strength, the linkage becomes difficult if not impossible to maneuver.

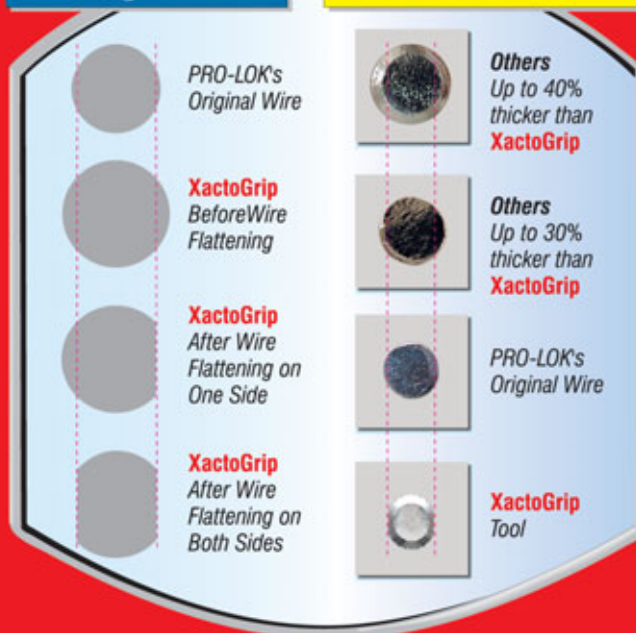
Solution: PRO-LOK has changed the size and shape of 26 of its car opening tools.

- Only the highest grade music wire is used.
- We start with a thicker diameter wire and flatten two sides.
- The tools are then shaped and then heat treated (some tools twice) for additional strength and breakage protection.

The result is stronger but thinner tools. The flat side of the tool is inserted between the weather stripping and the glass. When the tool is rotated, you have a stronger tool.

PRO-LOK's Xacto-Grip Flattening Process

XactoGrip Tools vs Other Manufacturers Wire Tools



Xacto-Grip Kits

AK04 Professional Kit

The Professional kit is the kit for you if you're just getting started in the auto lockout business. This is a great basic kit. Low cost and versatility make this selection of tools perfect for the beginner or just right for an extra kit. These tools can be used to unlock a variety of foreign and domestic vehicles. Packed in a vinyl case with a tool instruction booklet. 10 piece set. Vinyl case 8" x 27". Tools shown in **Yellow** indicate **Xacto-Grip** design



Tools: **AO01**, AO04, AO10, **AO20**, AO25, **AO34**, **AO35**
Book: AO95 Case: AO52 Wedge: AO60

AK60 Master Kit

The Master kit is designed to provide the professional car opening technician with a general use lockout kit. This contains an assortment of basic tools that can be used to unlock a variety of foreign and domestic vehicles. Packed in our heavy duty cordura cloth case with a tool instruction booklet. 13 piece set. **Cloth Case!** 8" x 26" closed.



Tools shown in **Yellow** indicate **Xacto-Grip** design
Tools: **AO07**, AO10, AO14, **AO16**, AO25, **AO29**, **AO34**, **AO35**, AO60
Book: AO95 Case: AO53 Wedge: AO61

Xacto-Grip Tools

AO01 - Slide Lock Tool

AO07 - Astro Tool

AO12 - Round Jim Tool

AO16 - Corvette Tool

AO18 - Spring-L Tool

AO20 - Slide Jim Tool

AO21 - Toyota Tool

AO24 - MCOT-Handle Opener Tool

AO27 - MCOT-Handle Pull Tool

AO28 - MCOT-Fat Tool

AO29 - Dual Tool

AO31 - MCOT-Button Lifter Tool

AO32 - MCOT-Wide Extra Long Tool

AO33 - MCOT-Separator Tool

AO34 - MCOT-Narrow Tool

AO35 - MCOT-Wide Tool

AO36 - MCOT-Long Tool

AO37 - Button Finger Tool

AO38 - Honda Tool

AO39 - Double Slide Tool

AO41 - Behind the Glass Tool

AO43 - Back-Flip Tool

AO44 - Camry/Lexus Tool

AO48 - Audi A6/A8 Tool

AO49 - Double "L" Tool

AO84 - GM Camaro Tool

AK75 Economy Kit

The Economy kit is a great starter kit or inexpensive way to accumulate additional spare tools. Compact slim vinyl snap top case allows easy storage behind the seat for those emergency calls. This kit contains two Slim Jims, two wire tools and a tool instruction booklet. 6 piece set. Vinyl case 3" x 30". Tools shown in **Yellow** indicate **Xacto-Grip** design



Note:
All PRO-LOK Slim Jims are made from stainless steel.

Tools: **AO11**, **AO12**, **AO20**, AO30
Book: AO95 Case: AO51

AK92 Premium Kit

When you invest in lockout tools, you're spending your hard-earned money, so spend it wisely. This set of tools assures that you will receive not only 14 of our best selling tools, but you can keep them clean, protected, organized, and ready for use. Packed in our briefcase style cordura cloth case which has 10 individual pockets to store your tools, Velcro closure and sturdy handles. Open hundreds of models with this assortment of tools. 16 piece set. **Cloth Case!** 16" x 27" folded
Tools shown in **Yellow** indicate **Xacto-Grip** design



Tools: **AO01**, AO04, **AO07**, AO10, AO14, **AO18**, **AO21**, **AO25**, **AO35**, **AO36**, **AO37**
Book: AO95 Case: AO55 Wedges: AO60, AO61

2003 Corolla

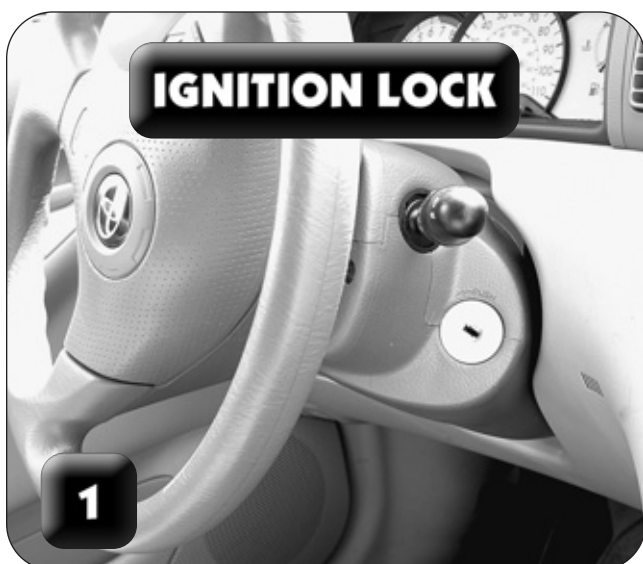


TOYOTA

Part 2

In the last installment we covered opening procedures and the door lock. In this installment we cover the ignition lock and trunk lock.

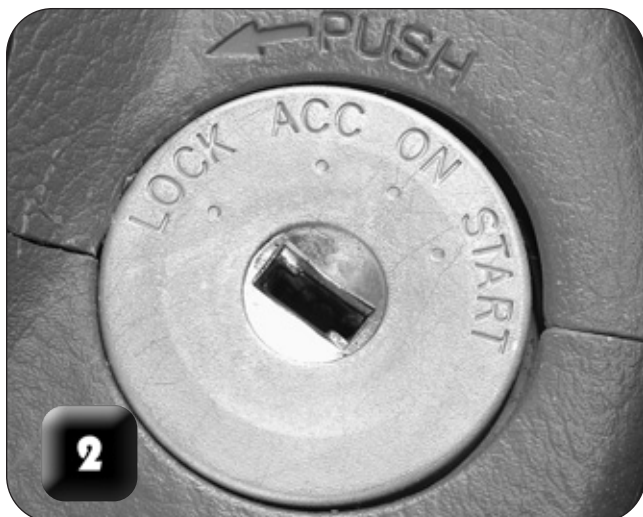
by Michael Hyde



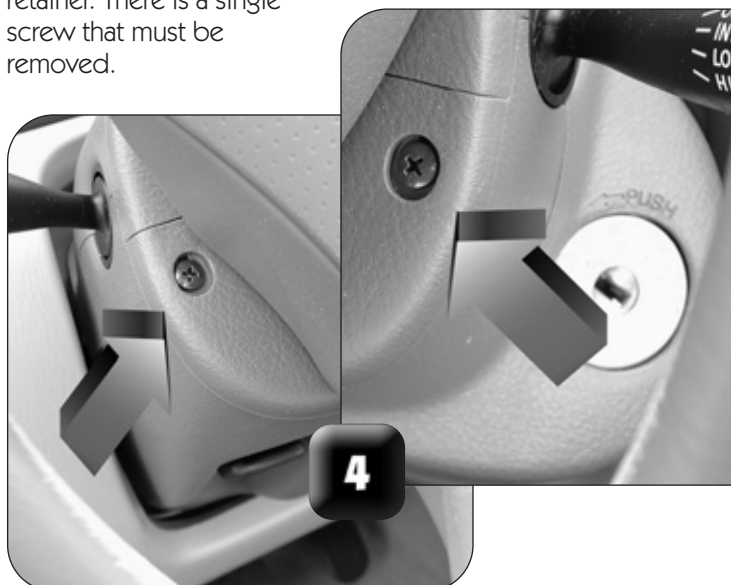
The ignition lock cylinder is very similar to other Toyota ignitions, which are called "Active" retainer locks. Which means the retainer will depress when a key is turned to the correct position.



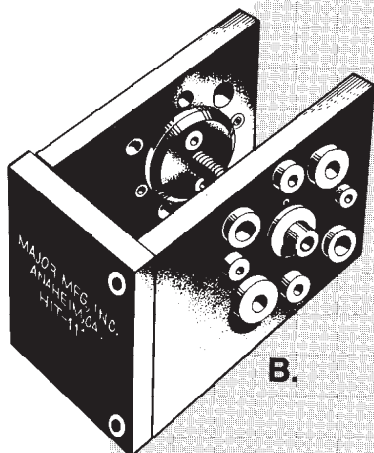
The bottom section of the plastic steering column shroud must be removed to depress the lock cylinder retainer. There is a single screw that must be removed.



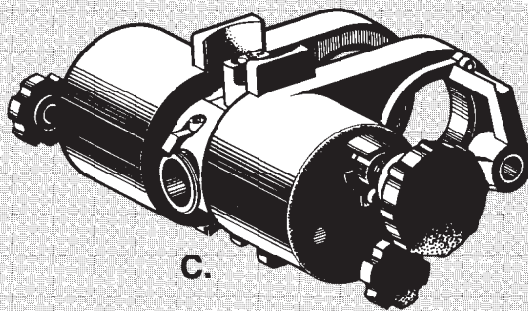
This car does not have a transponder system.



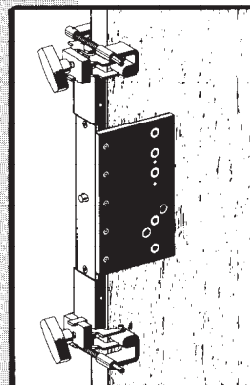
On each side of the front section of the shroud is a screw that must be removed. You may need to rotate the wheel to do this.



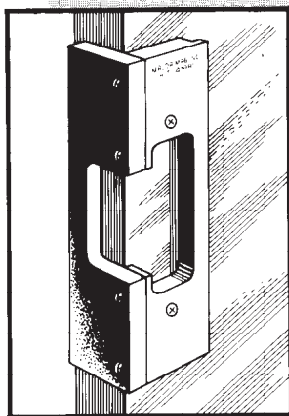
B.



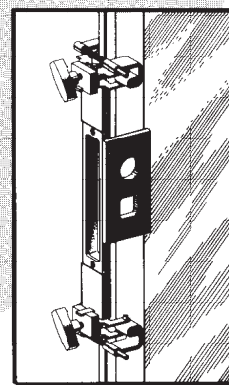
C.



D.



A.



E.

A. HIT-41 Series Electric Strike Templates.

B. HIT-111 Drill Guide - For Lever Lock conversions.

C. HIT-44 Drill Master Boring Jig for pin-point accuracy.

D. HIT-45 Modular Installation System for door hardware. Example: Mortise Lock set-up.

E. HIT-45 Example: Aluminum door set-up.

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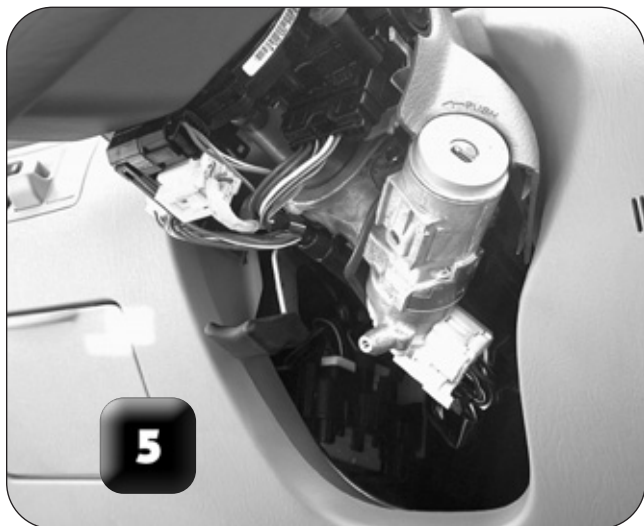
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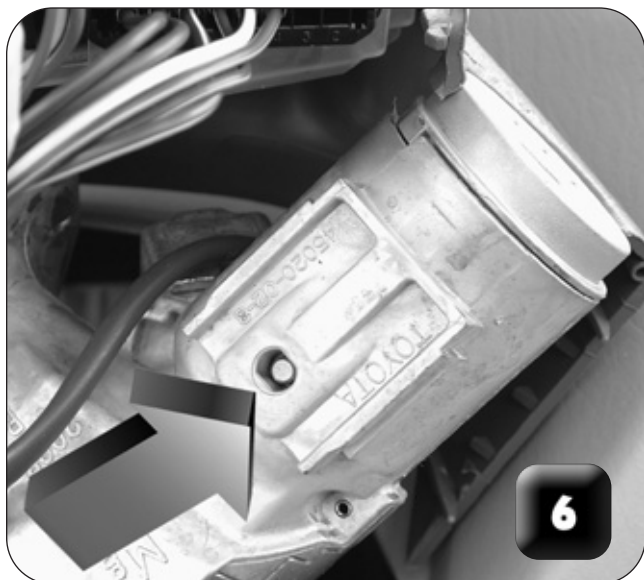
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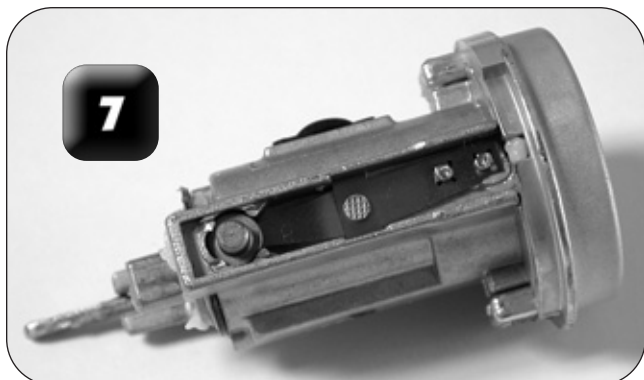
Circle 336 on Rapid Reply



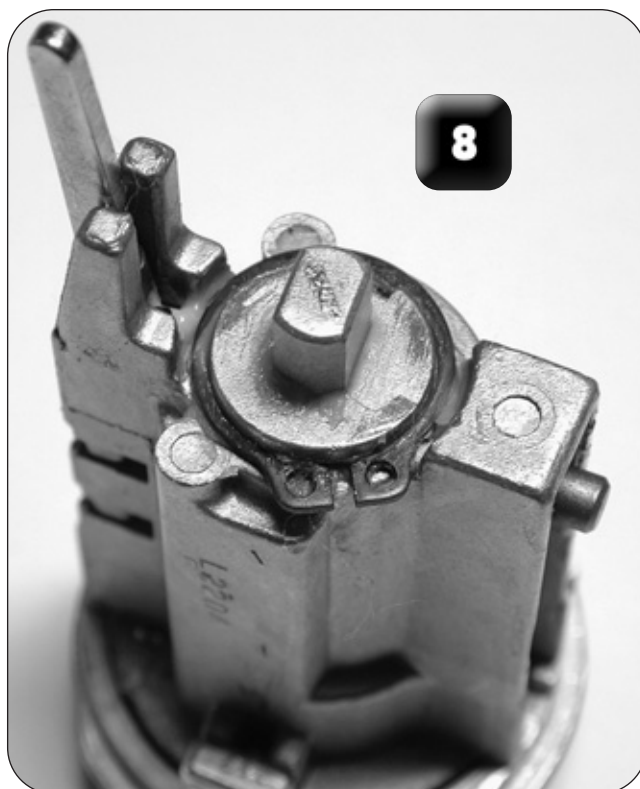
The lock assembly is exposed once the shroud is removed.



Insert a working key and rotate to the "ACC" position to depress and remove the lock cylinder. If you do not have a working key, the ignition lock will have to be drilled and replaced. Please DO NOT take a big heaping sledgehammer and pounding the heck out of the retainer with a punch. Please DO NOT take the largest drill bit you own and pile drive it into the ignition lock cylinder to try and remove it.



The ignition lock removed.



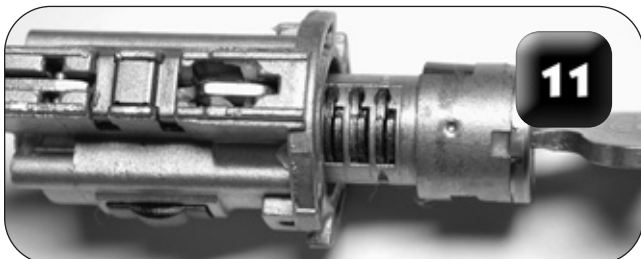
To disassemble the ignition lock you will need to remove the Tru-Arc ring on the rear of the lock cylinder.



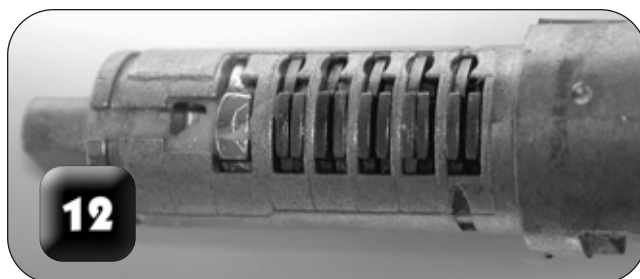
There are 2 roll pins that secure the ignition face cap. One side is easily reached by inserting a pointed punch behind it and forcing it out.



The other roll pin is not exposed and you must drill a small hole on either side of it and pry out the roll pin. Take your time and aim accurately when drilling.



Once the roll pins are removed you can slide off the ignition lock cylinder face cap and slide out the cylinder plug.



The ignition lock cylinder plug contains all 10 tumblers in 5 chambers.



The trunk lock cylinder is to the upper right of the license plate frame.

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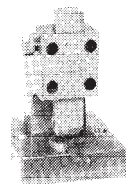
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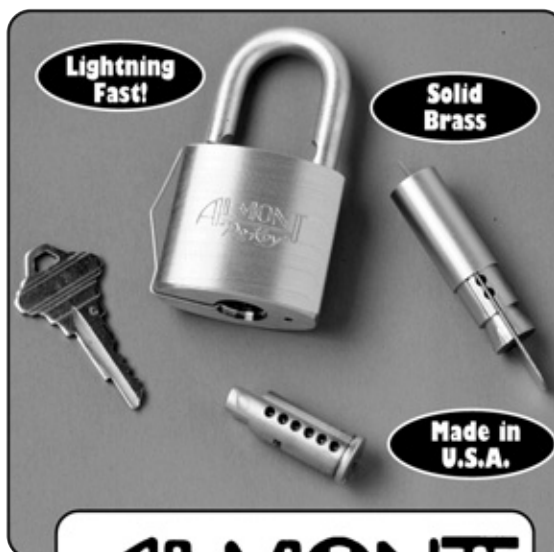
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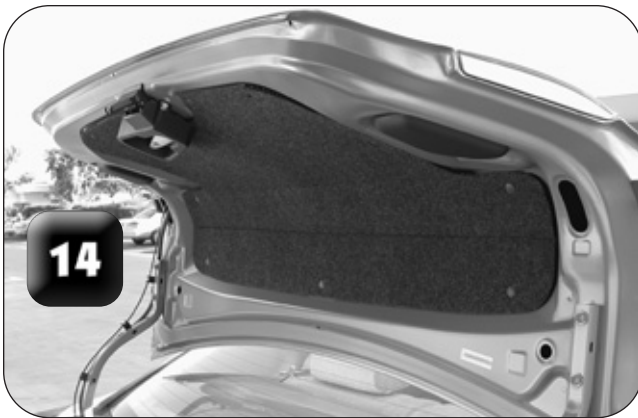
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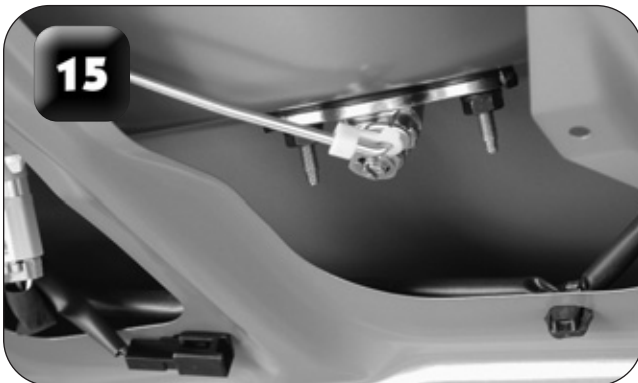
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No. 3	Schlage C
No. 30	Schlage C-K
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No. 5	Segal 9
No. 5A	Arrow
No. 6	ILCO 1054K
No. 7	Sargent "S"
No. 71	Yale "GA"
No. 72	Yale "GB"
No. 8	Weiser
No. 9	Weslock
No. 10	Sargent "LA"



There is a plastic liner on the interior side of the trunk lid that must be removed. It uses the standard push-in style clips that can be removed and re-used with a little care.



Boy it sure is great not to have to remove any taillight assemblies to get the trunk lock cylinder out.



Two 10mm bolt nuts secure the trunk lock.



The trunk lock has a large opening on the bottom so you can see all the tumblers.

Dave McOmie's

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18



There is a set of numbers stamped into the trunk lock. It is not a code number, but it might be your lucky lottery numbers.

The face cap must be removed to disassemble the lock. The cap is notched on both sides.

20



The trunk plug has a spring-loaded ball bearing on the end. Watch out for this when you remove the cylinder plug. I wasn't watching and it flew out of the lock at a high velocity and has never been found since. I replaced it with one from a Nissan, but that will be our little secret.

19



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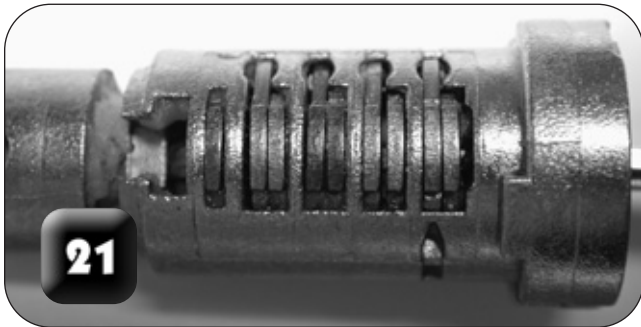
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The door lock cylinder plug contains 8 out 10 tumblers in positions 3 through 10. There is also single valet tumbler for the tip position.



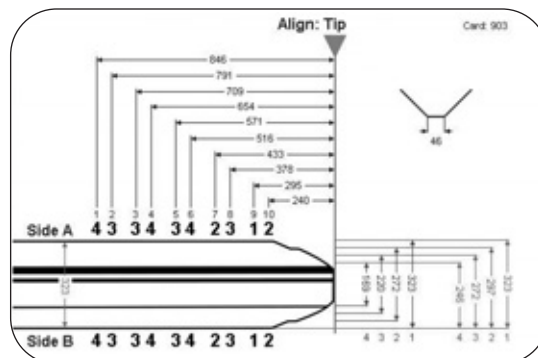
The valet tumbler is a number 2 depth cut into the key in what would be the 11th position. Since Toyota reverses their tumbler depths it is stamped with a 3 on it. A number 4-depth tumbler would be stamped as a #1 on the tumbler and so forth, as an example.

Making the First Key:

Well this could not be any easier.

Method #1: Remove passenger door lock and read code stamped on lock and make a code key.

Method #2: Disassemble a door or trunk lock and then you will have 8 of the 10 cuts in positions 3 through 10. Progression the remaining cuts in the ignition for a complete key. Software programs like InstaCode make this much easier.



Continued on page 36

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VITAL STATISTICS

Manufacturer: Toyota

Code Series: 50001 - 69999

Key Blanks:

Boerkey: 162300T10

Errebi: T04TY37RP

Ilco: TOY43AT4

Jet: TR47-PHT

Orion: T10TY51A

Silca: TOY43AT4

Number of Cuts: 10

M.A.C.S.: 2

Key Gauged: Tip

Center of First Cut: .846

Cut to Cut Spacings:

.0551/.0826 Alternating

Cut Depth Increments: .0255

Notes:

Spacings:

1 - .846

2 - .791

3 - .709

4 - .654

5 - .571

6 - .616

7 - .433

8 - .378

9 - .295

10 - .240

Depths:

1 = .323

2 = .297

3 = .272

4 = .246

HPC 1200CMB

Code Card: CF307

Jaw: A

Cutter: CW-47MC

Gauge From: Tip

HPC 1200PCH (Punch)

PCH Card: N/A

Punch: N/A

Jaw: A

Silca UnoCode

Card Number: 1420

HPC CodeMax

DSD #: 176

Jaw: A

Cutter: CW-47MC

Curtis No. 15 Code Cutter:

Cam-Set: N/A

Carriage: N/A

Framon #2

Cuts Start at: .404

Cut to Cut Spacing:

.0551/.0826 Alternating

Block #: N/A

Depth Increments: .0255

Cutter:

Key Clamping Info: Key aligned using left side of vise/spacing clip.

A-1 Pack-A-Punch

Quick Change Kit: N/A

Punch: N/A

Die: N/A

ITL 9000 & 950

Manufacturer ID: N/A

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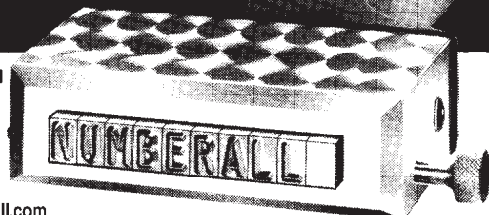


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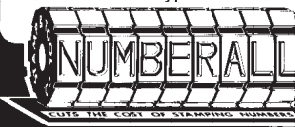
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REFRIGERATOR SECURITY

by
**Jake
Jakubowski**



Thinking Outside the Ice Box

I've often written that if we think conventionally when it comes to solving problems for our customers, then at the very best, we can expect only conventional results, and conventional acceptance of our ideas. If we dare to think beyond convention and take a what-if approach to creating solutions for our customers, sometimes the results can be spectacularly profitable.

First, let me say this: Not every job you do, or are asked to do will require thinking outside of the box - although it doesn't hurt to think that way. Most of the time, the solutions we provide are easily accomplished by working within established norms. That is, repairing or replacing problem hardware with

readily available hardware with accepted, comfortable, and very conventional methods.

Where we can really shine and really impress our customers is when they ask us if there is a way to do something that even they know is unusual. Then like the creative folks we can be, come up with a solution to satisfy that customer's particular needs.

So, what does a double door refrigerator, a Simplex 2000-15 keyless entry access unit, a door closer, a large, LB (2-1/2" diameter) electrical conduit box with cover, and a used panic device have in common? (*See photograph 1.*)

To find out, you're going to have to read the article.

Okay, here's the scenario: The pharmacists at a local hospital called me to discuss a couple of problems he was having-including a pending visit by the State regulatory board. One of his problems was a side-by-side refrigerator in the O/R suite and a 'drug cabinet' on the Surgical Recovery floor.

First the refrigerator: The large (22 cubic ft.) refrigerator was a side-by-side model, and since it had a handle for each door to secure it, a chain and padlock was used. (*See photograph 2.*) Workable, but not practical, and definitely not something the inspectors were going to accept when they saw it.

The pharmacist wanted me to figure out how to secure the door with a non keyed lock, and make the door close and lock by itself.

1. A Simplex 2000-15, a door closer, a large, LB electrical conduit box with cover, and a used panic device.



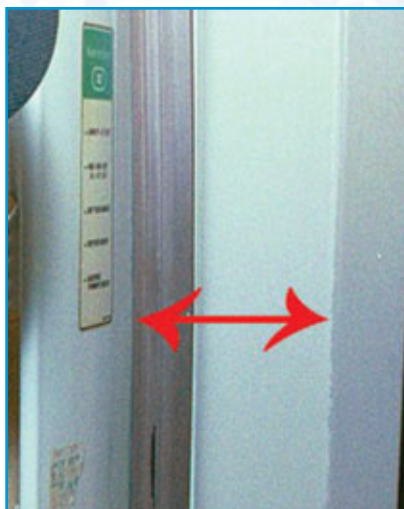
2. The large (22 cubic ft.) refrigerator used a chain and padlock to secure.



3. A large 2-1/2" diameter right angle electrical LB conduit box.

Initially, I began looking at electronics for the locking mechanism and figured on the normal self-closing feature of the refrigerator door to do the latching. So, I climbed outside of the box and looked for a creative way to solve this problem.

I decided on a Simplex 2000-15 Series Keyless Access Control Unit as the primary means of unlocking the refrigerator. To lock it, I rummaged around in my "Hey-I-might-need-that-someday box," and found the head of an old panic exit device that would work with the Simplex. I bought a large 2-1/2" diameter right angle electrical LB conduit box



4. I first measured from the edge of the door to the molded shelving.

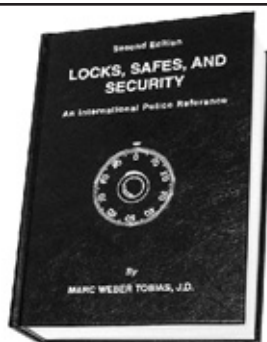
with a cover. (See photograph 3.) I also purchased a really neat small door closer (not the storm door variety) and a few other odds and ends. By the way, I only had to secure the refrigerator door, not the freezer door.

To locate the drill point of the hole needed for the tailpiece of the Simplex 2000-15 to go



5. Kelly drilled a pilot hole and the 1" hole.

through the door, I first measured from the edge of the door to the molded shelving. (See photograph 4.) To that, I added the 2-3/4" backset I wanted for the panic device, and then I transferred that measurement to the front of the door. After some very careful measuring, my son Kelly and I figured out where the lock needed to be mounted and



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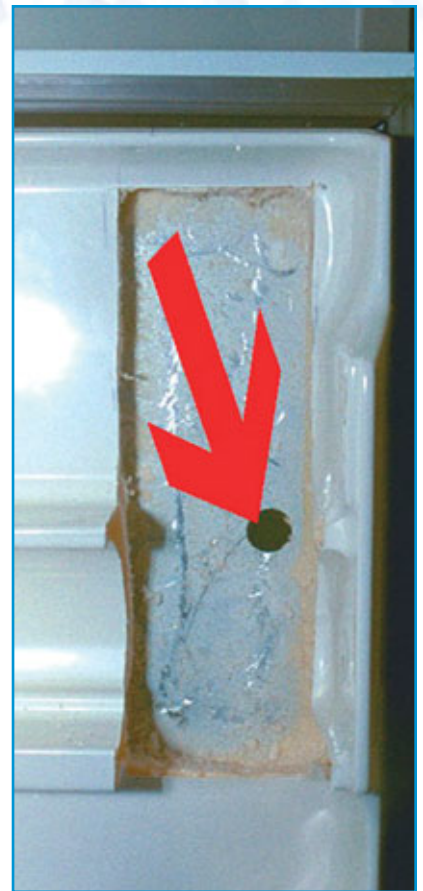
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6. Kelly cutting away the shelving with a Dremel Tool®.



7. Kelly is removing the insulation from the inside of the door.



8. Insulation removed from the door and the one-inch hole.



9. Mounted the LB box and 2"x4" shim.



10. A cover to conceal the working mechanism.

drilled a pilot hole and the 1" hole we wanted for the tailpiece of the 2000-15 to operate through. (See [photograph 5](#).)

After Kelly carefully cut the hole through the door, the insulation, and the shelving inside the door, I placed the LB box against the shelving and made a rough outline of the material needed to be removed from the door. [Photograph 6](#), shows Kelly cutting

away the shelving with a Dremel Tool®. In [photograph 7](#), Kelly is removing the insulation from the inside of the door. [Photograph 8](#), shows the insulation removed from the door and the one-inch hole that was drilled. In [photograph 9](#), you can see where we have mounted the LB box and 2"x4" shim and continued the tailpiece hole through the door.

We secured the LB box and the two-by-four with two carriage bolts. The reason I used the large LB box was to strengthen the wall of the door around the latching mechanism and the Simplex. With the legs cut off of the LB box, and a large notch cut out of

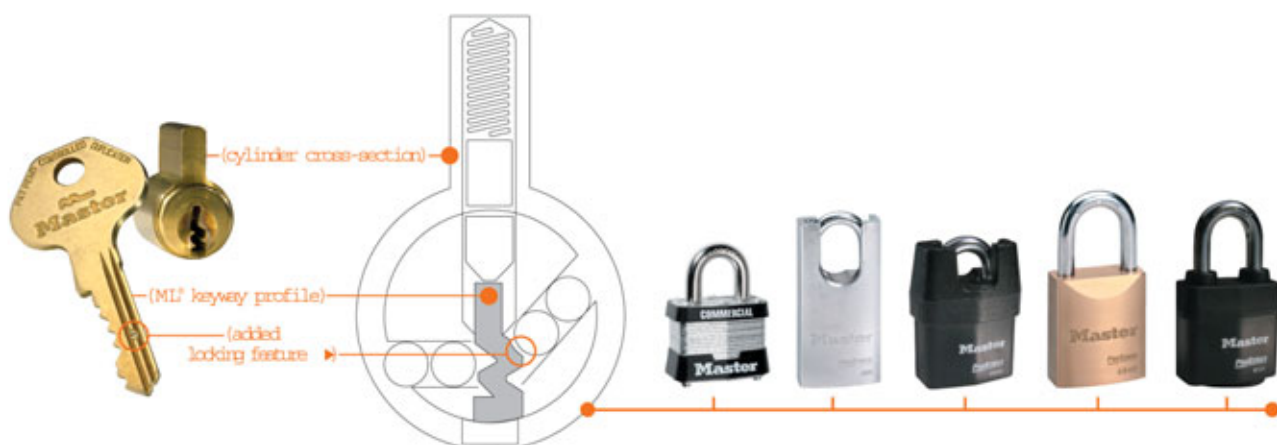


11. The 2"x4" was through bolted from the front of the door.

Continued on page 42



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12. We cut a notch in both the LB and the plastic shelving.



13. Clearance for the strike was cut.



14. I cut the edge of the shelving to make the notch for the strike.



15. There is a backing plate behind the strike.

its side, the box imparts a degree of rigidity to the door that was otherwise unobtainable.

If you look at the right hand side of the LB box, you can see where we put the cutout for the latch of the panic device. It is the LB box that gives the whole project a base that would allow the proper functioning of the lock. It also allowed for a cover to conceal the working mechanism and keep curious fingers out of harm's way. (See [photograph 10.](#))

To place the latch at the proper inset to latch behind the strike as required, I used a piece of 2"x4" to act as a shim. The 2"x4" was through bolted from the front of the door with one of the bolts placed through the mounting plate of the Simplex. (See [photograph 11.](#)) The other carriage bolt head is further down in the photograph. See the red arrows. The black arrow in photograph 11 points to one of the four



16. The Simplex 2000-15 body on the mounting plate.

mounting screws that would normally hold the mounting plate to a door's surface. In this case, because of the heavy plastic of the LB connector and the 2"x4" shim, I used 2" pan head, self-drilling screws to penetrate the metal skin of the door, the LB box and into the 2x4. With the carriage bolts shown in [photograph 11](#), also holding the plate and 2x4 to the door, I don't think the lock will be easily compromised by a forceful entry attempt.

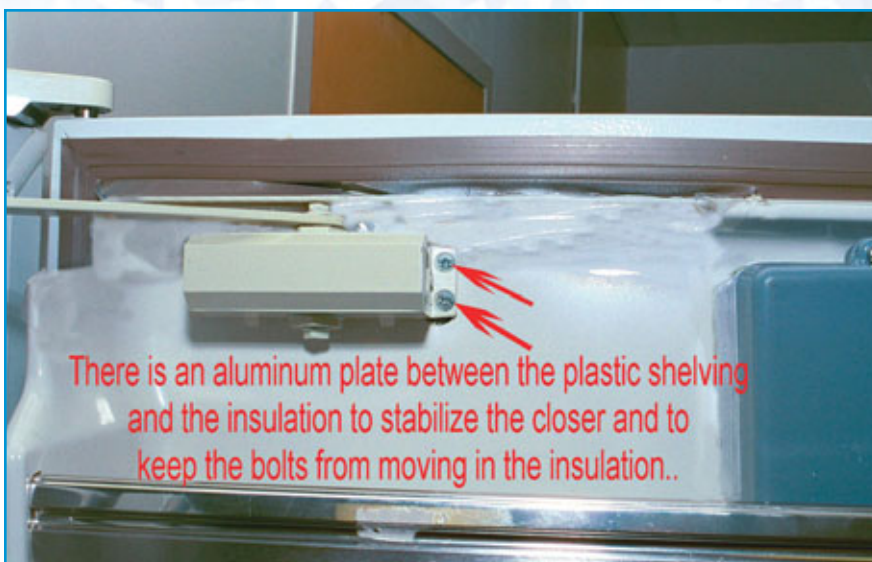
The shelving and the junction box had to be cut to allow room for the door to pass the strike and allow the latch to engage the strike. If you look at photograph 12, you can see how we cut a notch in both the LB and the plastic shelving. Arrows point to



17. We epoxied the shelving to the box and stabilized the shelving.

the top and bottom of the cut made to allow clearance for the strike as shown in [photograph 13](#). Interestingly enough, when I cut the edge of the shelving to make the notch for the strike, that allowed the flimsy shelving (which is molded from one piece of plastic) to flare outward and I had to screw those edges into the lid of LB junction box. You can see what I did in [photograph 14](#).

Before mounting the Simplex body, we mounted the strike as shown in [photograph 15](#). After testing the lock and strike, and making necessary adjustments to the strike, we through bolted the strike to the wall between the refrigerator and the freezer compartments. You can also see in [photograph 15](#), that there is a backing plate behind the



18. We had to cut away the overhang of the shelving panel.



19. Using long 3/16" bolts we through-bolted the closer.



20. We painted the mounting plate to match the appliance white of the refrigerator.

strike. That was placed there to give the wall behind the strike more rigidity and help keep the plastic in the wall from cracking when the locked door was yanked on. To further enhance the rigidity of the wall at the strike zone, I placed a similar piece of metal in the freezer compartment and

through-bolted the backing plate to that. Overall, it's a fairly stable and strong strike installation.

The final part of the lock assembly was to place the Simplex 2000-15 body on the mounting plate. (See photograph 16.) Then lock it in place with the key, and test the combination

to make sure the latch would retract when the thumb turn of the lock was activated after entering the proper combination.

Finally, we placed the cover on the LB conduit box and replaced the trim on the shelf. On the shelving against the LB box, we epoxied the shelving to

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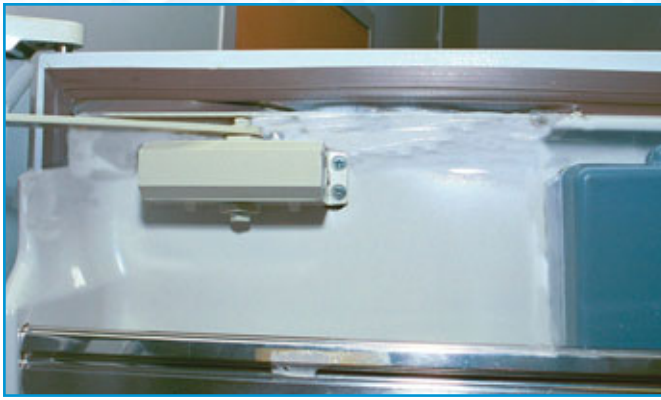
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21. The closer mounted.



22. The Header Mounting Bracket secured to the top of the refrigerator.



23. The completed LB junction box.

the box and stabilized the shelving so it was still useable. (See [photograph 17.](#)) Next, we used a little spray paint to try and blend the epoxy and our repairs in as best we could.

Installing the Closer

The next step was to mount the closer to the door. It's interesting to note that every closer I've mounted prior to this one, I've been able to stand facing the door and header of the jamb and mount the closer. In this case we had to mount the closer with the arm attached and then determine where the arm would mount in the ceiling of the refrigerator. You'll see what I mean in a moment.

First, we had to cut away the overhang of the shelving panel at the top of the door so the closer would mount flush against the



24. The completed panic hardware latch installed.

door. (See [photograph 18.](#)) Holding the closer in place against the door, we marked our through bolt holes placed an aluminum reinforcement plate between the shelving wall and the insulation in the door and drilled out holes. Using long 3/16" bolts we through-bolted the closer to the closer mounting plate. (See [photograph 19.](#)) (The mounting plate was on the outside of the door.) We then secured the closer, ground the bolts off flush with the mounting plate and painted the mounting plate to match the appliance white of the refrigerator. (See [photograph 20.](#))

[Photograph 21](#), shows the closer mounted, with the cover and the rough cuts in the door's shelving epoxied and painted over. When mounting the closer, we did not clean out the insulation like we did for the LB box. What I did to help stabilize everything and keep the closer from rocking on the insulation when



25. The completed latch and push-button lock assembly.

the door was being opened, was to insert an aluminum plate behind the closer and between the plastic shelving and the insulation. With the through-bolts drawn up tightly, the closer is stable and will not move when the door is opened.

With the closer in position, we now had to secure the header mounting bracket to the top of the refrigerator. With the door open and the arm in a standard parallel arm position, we measured the distance from the inside edge of the door and out from the wall of the door to the pivot point of the header mounting bracket. (See [photograph 22](#)) We transferred those measurements to the inside top of the refrigerator and temporarily secured the mounting bracket with two self-taping screws.

The first time the door would not quite close all the way, so we moved the mounting bracket back about 2" and again, temporarily secured it. This time the door worked perfectly and with a slight adjustment to the closing speed, latched properly.

At that point we removed the screws holding the bracket (the inner top of the refrigerator was plastic) and through drilled up and out of the top of the refrigerator. Then we re-secured the mounting bracket using longer bolts and large fender washers with self-locking nuts to hold it all together. Of course we trimmed off the excess bolt length and made sure all sharp edges were ground down smooth.

Photograph 23, shows the completed LB junction box from the inside of the door (we did not paint the LB since the paint would probably have peeled in short order as the PVC the LB

was made of was hard and glossy. *Photograph 24*, shows the completed panic hardware latch installed. *Photograph 25*, shows the completed latch and lock assembly from the outside.

This job was very unconventional. Yes, I did use conventional hardware and conventional parts to accomplish the job, but it was the way I put the packages together that qualifies for unconventional status.

On the other hand, the profits for these two jobs were on the extraordinary side as well. Why? Because any customer that has a special need is always willing to pay a premium to the person who can fill that need in a creative way.

What was very interesting about this job was, I had no guidelines to follow. No templates (except for the 9600 cabinet lock) and nothing more than my willingness to try a little

"Flow Engineering". That is, Kelly and I made it up as we went along.

So, how would you have accomplished this customer's goal and met their requirements? What would you have used and how would you have used it? Remember that we ruled out electronics because of potential problems in the event of a power failure.

Send me your ideas, maybe some drawings or a photograph or two and I'll see if I can't turn them into a Technitip or article. *Send them to me at: Jake Jakubowski, c/o The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60607. Or, you can email them to me at Jake@johnnyslatch.com. Either way, be sure to include your name, telephone number and physical street address.*

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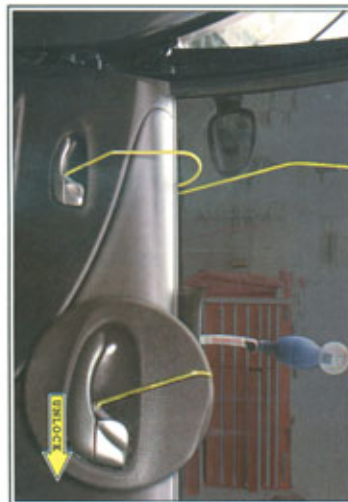


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Car Opening

Exposed

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- PREFERRED OPENING METHOD**
This vehicle is a redesigned model for 2002. The weatherstripping is not very tight. Door lock in driver side only.
1. Insert a Pump Wedge 12" from the front edge of the window glass of the rear passenger door. Inflate wedge.
 2. Insert an AO34 "MCOT-Narrow" tool 8" from the front edge of the window glass, tip facing forward. (Photo 2)
 3. Lower the AO34 13" into the door cavity. Rotate tool beneath the bottom edge of the window glass. Deflate wedge.
 4. Lift the tool, gradually working the tip of the tool into the vehicle interior. Rotate the tool 90° counterclockwise and position the tip of the tool in front of the lock-unlock button. (Photo 3)
 5. Push the button rearward to unlock the door.



Altima 03

YEAR: 2002 -

LINKAGE: HORIZONTAL

PICK: CW

TOOL: AO-34

"MCOT-Narrow"

NISSAN



Bravada 03

YEAR: 2002 -

LINKAGE: HORIZONTAL

PICK: CW

TOOL: AO-39

"Double Slide Tool"

OLDSMOBILE

PREFERRED OPENING METHOD

This vehicle is a redesigned model for 2002.

1. Insert a Pump Wedge 11" from the rear edge of the window glass of the front passenger door. Inflate wedge. Insert an AL3900 inspection light 8" from the rear edge of the window glass and identify the lower horizontal rod.
2. Insert the long end of the AO39 "Double Slide Tool" 5" from the rear edge of the window glass, tip facing rearward. (Photo 2)
3. Lower the AO39 14" into the door cavity. Rotate tool 45° clockwise.
4. Lower the tool until the tip of the tool makes contact with the lower horizontal rod. Position the tip of the tool under the lower horizontal rod. Twist the tool counter-clockwise to bind the rod. (Photo 3)
5. Push the rod forward to unlock the door.



ALTERNATE OPENING METHOD

1. Insert a Pump Wedge 9" from the rear edge of the window glass of the front passenger door. Inflate wedge.
2. Insert an AO34 "MCOT-Narrow" tool 17" from the rear edge of the window glass, tip facing forward.
3. Lower the AO34 15" into the door cavity. Rotate tool beneath the bottom edge of the window glass. Deflate wedge.
4. Lift the tool, gradually working the tip of the tool into the vehicle interior. Rotate the tool 90° counterclockwise and position the tip of the tool in front of the inside lock-unlock button. (Photo 4)
5. Push the button rearward to unlock the door.



El Dorado 03

YEAR: 1992 -

LINKAGE: HORIZONTAL

PICK: SIDEBAR

TOOL: AO-38

"Honda Tool"

CADILLAC

PREFERRED OPENING METHOD

This model was redesigned in 1992. Factory Alarm will sound, to turn off use remote or put key in door lock & turn.

1. Insert a wedge 8" from the rear edge of the window glass of the passenger door.
2. Insert an inspection light and identify the white plastic guard plate at the rear of the door.
3. Insert the small hook end of an AO38 "Honda Tool" at 3" from the rear edge of the glass, tip facing forward. (Photo 2)
4. Lower the AO38 16" into the door cavity and rotate it 115° counter-clockwise. Lift the tool to contact the lower horizontal rod hidden by the guard plate. When you see the button move, twist the tool to bind the rod.
5. Pivot the tip of the tool forward to unlock the door. (Photo 3)



ALTERNATE OPENING METHOD

1. Insert a pump wedge 15" from the front edge of the window of the front passenger door. Inflate wedge.
2. Insert an AO34 "MCOT-Narrow Tool" 6" from the front edge of the window, tip facing rearward.
3. Lower the AO34 into the door cavity and rotate it beneath the bottom edge of the window. Deflate wedge.
4. Lift the tool, working the tip of the tool into the vehicle interior. Rotate the tool clockwise and position the tip of the tool under the inside lock-unlock button. (Photo 4)
5. Lift the button slowly to unlock the door.



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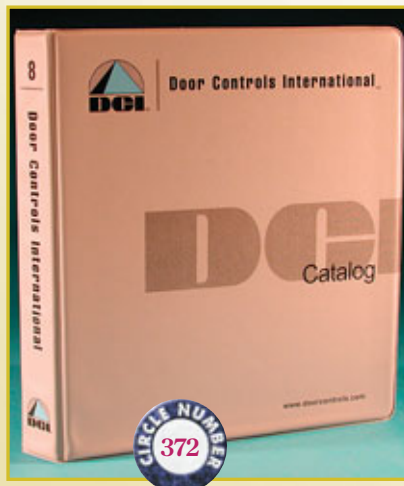
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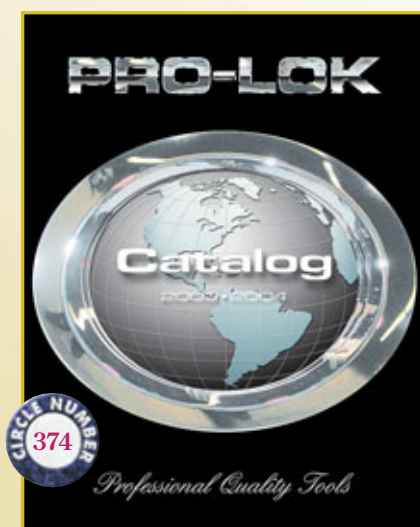
Continued from page 48

entire line of architectural hardware for commercial and residential use. Images, product detail and charts spell out the uses, styles and finishes of their 12 lines that include ACSI, Baldwin, Folger Adam, Glynn-Johnson, Hager/Roton, Ives, Kaba Ilco, LCN, Locknetics, Omnia, Schlage and Von Duprin. An entire section is devoted to electrified door hardware.

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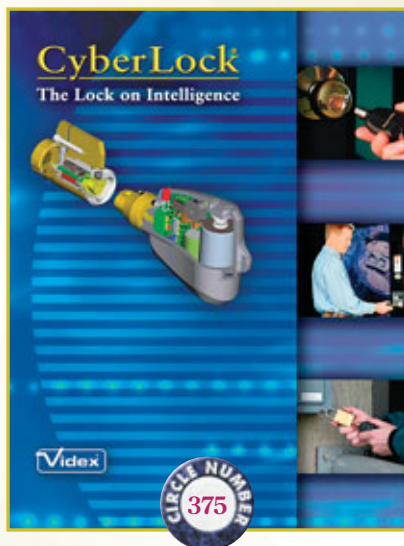
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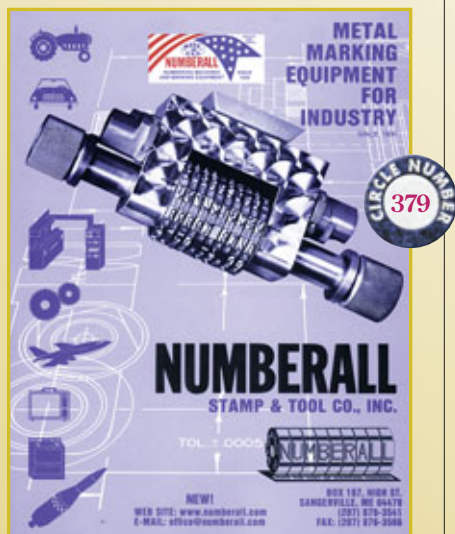


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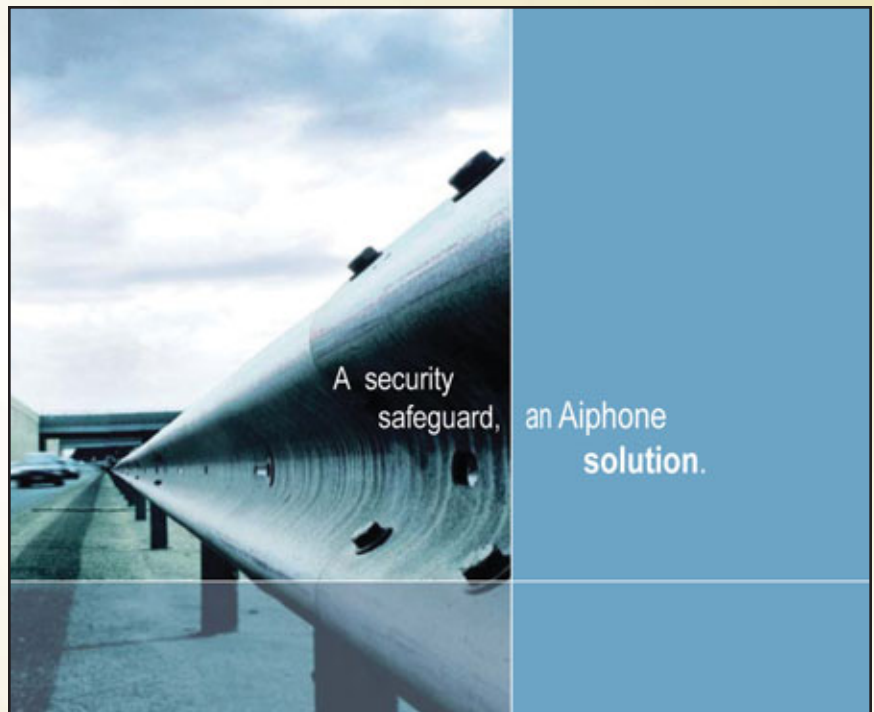
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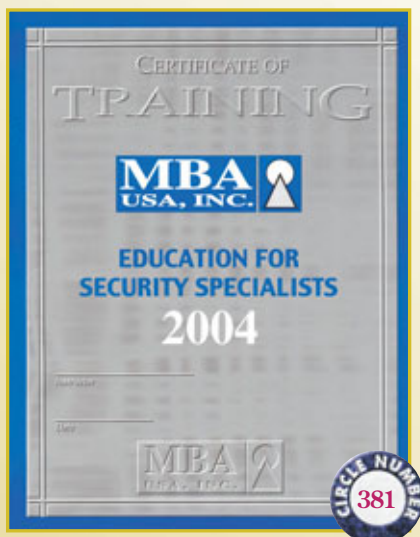


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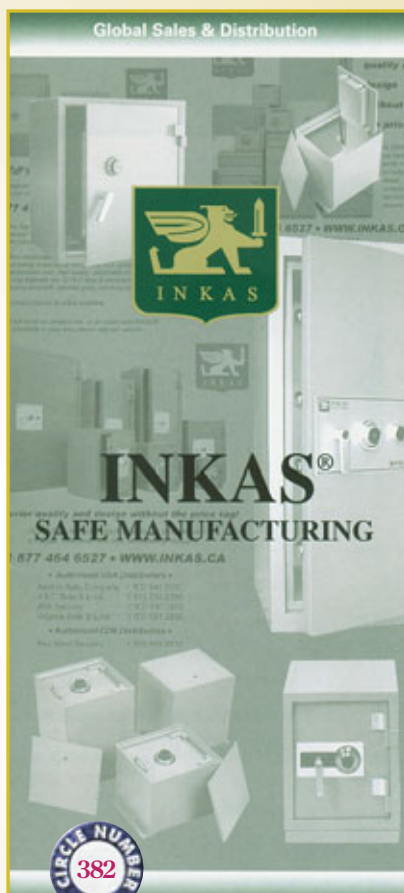


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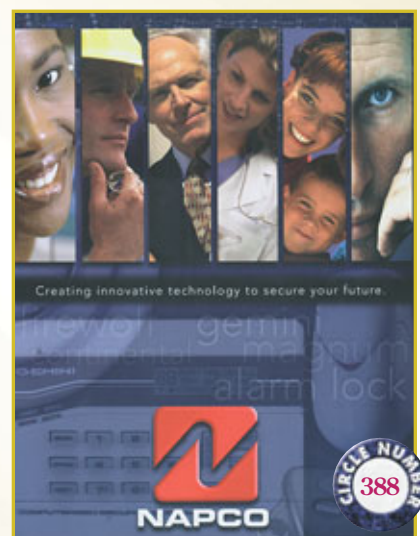



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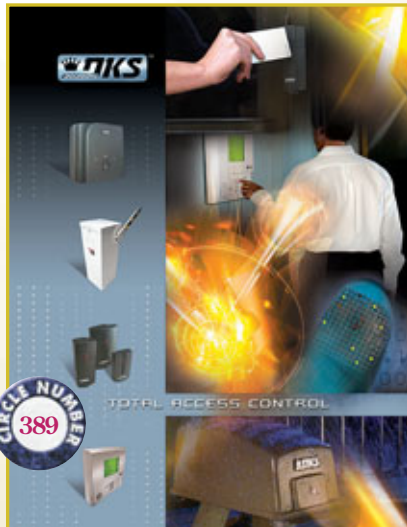


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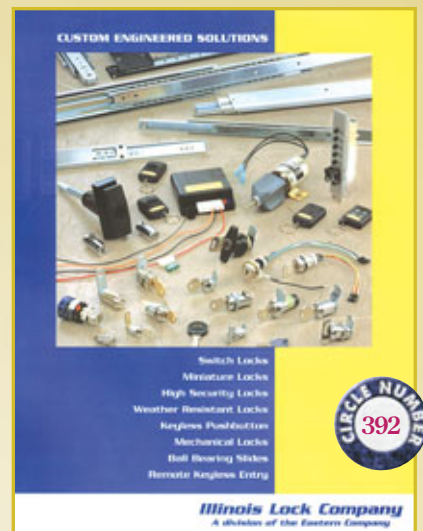


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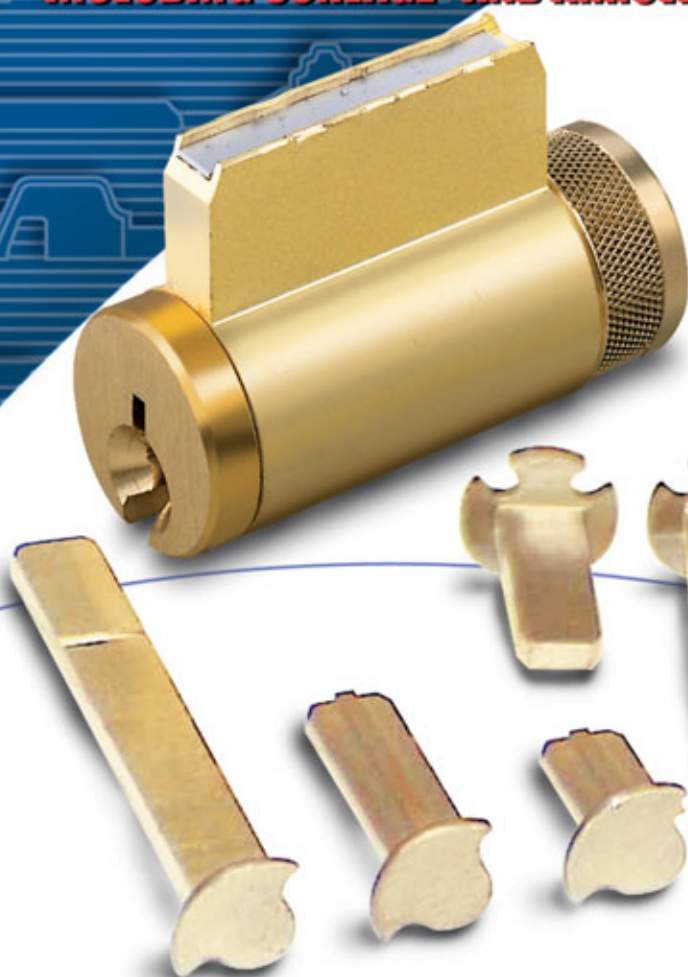
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Installing DORMA's DE9000 Delayed Egress Exit Device

by Michael Messner

In general, exit devices exist to allow people to exit a building easily. (That's not surprising given their name.) Depressing a device's touch bar releases a latch or latches and permits the door to open.

There are instances, however, when immediate exiting is not desired. Operators of healthcare centers for patients with Alzheimer's disease and maternity wards, for example, need to restrict egress for the protection of its residents. Warehouse owners do not want employees walking off with merchandise from an unsupervised back door. Facility managers want to make sure that emergency exits are used for emergencies only, not everyday use.

To deter people from exiting, the building's owner, security consultant or locksmith will frequently recommend an alarmed, delayed egress exit device, such as the DE9000 exit device from DORMA Architectural Hardware.

[See photograph 1.] A person who depresses the touchbar will start either a one or three-second nuisance alarm. If the touchbar is released during that time the nuisance alarm stops. If the touchbar is continued to be depressed and held after the nuisance alarm, the DE9000's touch bar will start an irreversible delay alarm for the remaining time of the 15-second

is authorized to exit, or to witness the attempted egress on a monitor and take appropriate action.

Because of the electronics associated with delayed egress exit devices, some locksmiths might view their installation as daunting. The reality is far from it. You don't need a degree in electrical engineering. Products such as the DE9000 exit device require only a general knowledge of wiring and the skilled hands of a professional locksmith.

Evaluate First, Install Second

As with any exit device installation job, start by examining the door, the doorway, the door hanging system, and the door controlling system. In other words, make sure the door operates properly—its door closer functions and the door is seated firmly in the jamb when closed. Evaluate the door type. On hollow metal and aluminum storefront doors, you'll probably be able to drop the wiring through the door. With a wood door, you will need to create a raceway from the ES105 Power Transfer to the tailpiece of DE9000 Exit Device.

Open the package and read the instructions. This cannot be



1. ES100 power supply, ES105 power transfer, DE9000 delayed egress exit device.

delay mode, during which time the door remains locked. This is accompanied by an audible alarm or alert on a central security system.

Following the delay, the device releases the latch bolts and permits movement through the opening. However, the delay period usually offers time for attendants, supervisors, managers, or security personnel to hurry to the door and determine whether the person

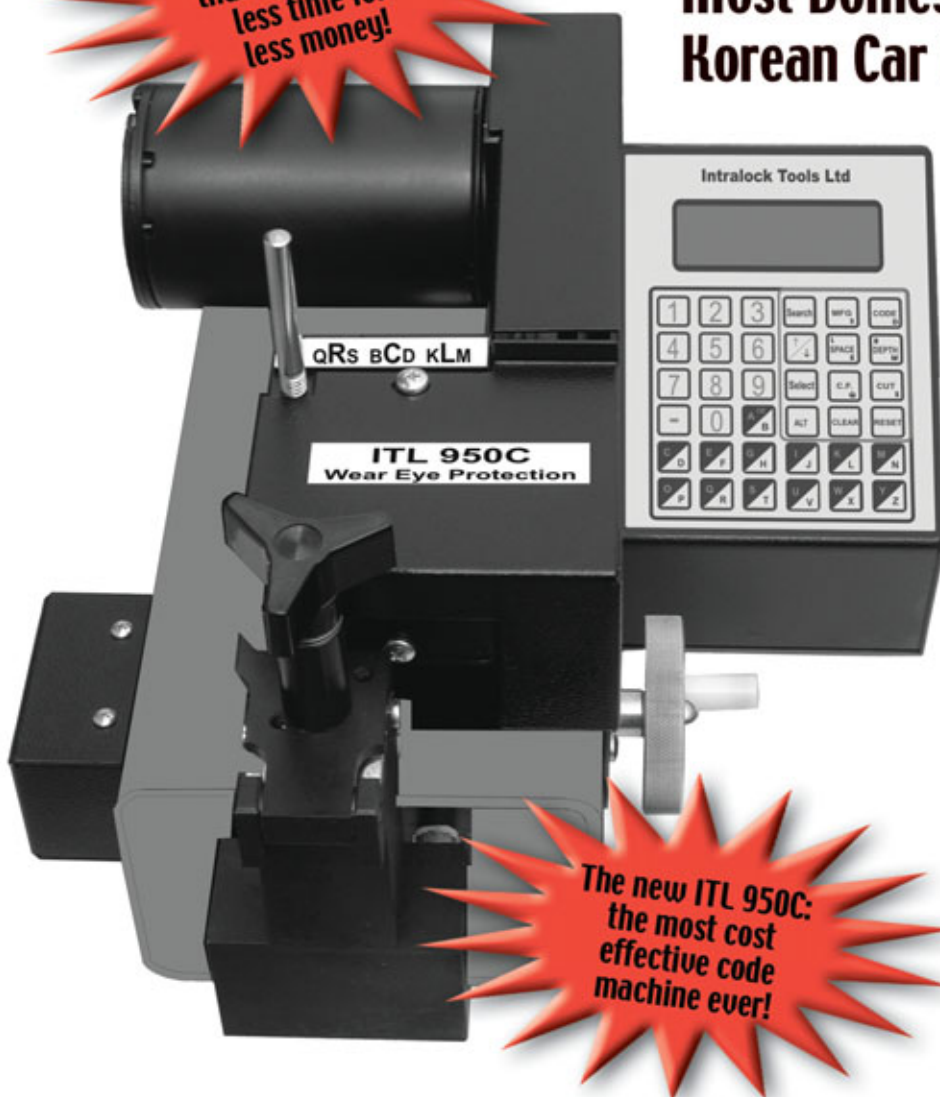
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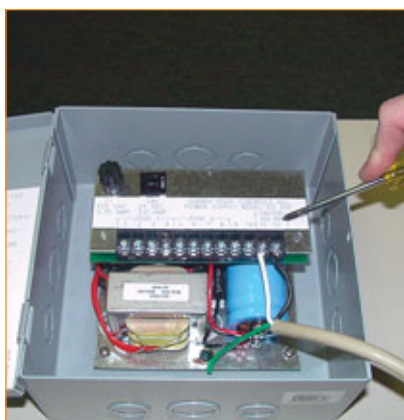
stressed enough. More than three-quarters of all calls for technical assistance can be avoided (and remedied more quickly without time-consuming call backs) by reading the instructions. Make sure you understand all the steps, components and tools required for the job.

Start by installing the exit device on the door according to the instructions. Use the template provided to ensure accurate placement of the device and mounting holes. (DE9000 templates and installation instructions can also be found at www.dorma-usa.com/archhardware. Make sure it is functioning mechanically as a normal exit device before dealing with the electrical components.

A quick word regarding the use of surface rods—they are not viable for a security exit device. Vandals can easily access the latch mechanism—even when the rods have covers over them—and exit without depressing the touch bar and engaging the delay or alarm. DORMA does not offer a surface rod configuration (DORMA 9400) with the DE9000 device. Avoid other products that do. Opt for concealed rods or a rim or mortise device instead.

Power Moves

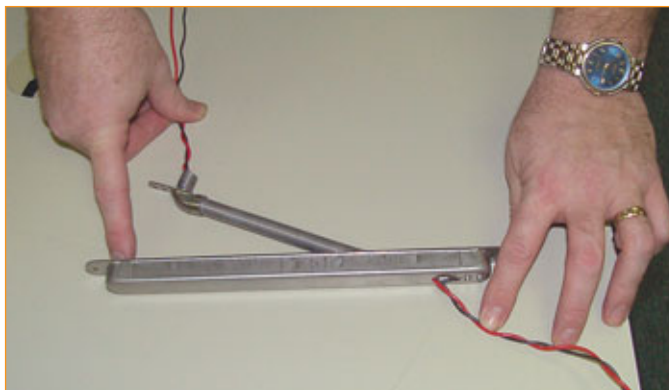
You will need to install a DORMA ES100 Power Supply so the locking mechanism and built-in alarm will work. [See photograph 2.] This power supply is a 24-volt, 3-amp unit that delivers surge output to control the solenoid located in the touch



2. ES100 power supply.



3. DE9000 relay board.



4. ES105 power transfer.

bar and rail assembly. [See photograph 3.] If the distance from the DE9000 Exit Device to the ES100 Power Supply is within a 25-foot radius, 18-gauge wire is recommended. If that distance is between 25 and 50 feet, 16-gauge wire is recommended.

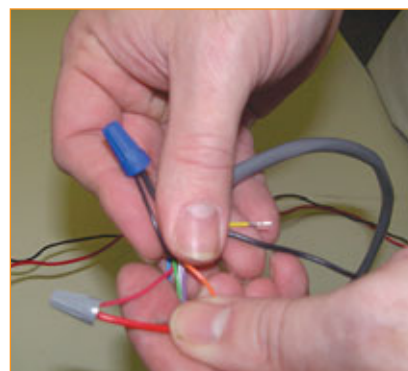
Mount the power supply in a location that is out of sight and reach, such as a drop ceiling (but keep it accessible enough for possible service needs). An uninterruptible backup power supply is recommended to ensure security during outages.

For aesthetic and security purposes, we suggest using the ES105 power transfer unit with steel housing and flexible tube. [See photograph 4.] This narrow, shallow channel easily mortises into the frame and into the door edges. It accepts up to $\frac{5}{16}$ " diameter wire bundle and accommodates doors that swing open 120 degrees. Secure and inconspicuous, the channel reliably brings power through the frame to the door and exit device. The unit is concealed when the door is closed.

To connect the DE9000 exit device to the power supply, first make sure the power supply is disconnected from its high-voltage power source. Take the common wire from the power supply and connect it to the black wire (negative contact found in the filler piece attached to the relay board) of the DE9000. The power supply's positive wire mates with the red wire on the DE9000. [See photograph 5.] Upon delivering power to the unit, the following functions are available.

- **Nuisance Alarm—**

The nuisance alarm, with a steady warning tone, deters inadvertent activation of the device when the touchbar is depressed. Releasing the touchbar before the



5. Connecting power supplies.

predefined nuisance alarm time of 1 or 3-seconds terminates the alarm, and the device returns to the armed mode. Depressing the touchbar longer than the predefined time will initiate the 15-second irreversible delay cycle. The 1 or 3-second nuisance alarm time is included in the 15-second irreversible delay time. The nuisance alarm time is factory set for three seconds, but may be changed to one second by removing a jumper on J5 on the controller board. A 30-second delay option is available, however written approval is required from the authority having jurisdiction.

- **Indicator LED**—Status for the DE9000 can be determined by the indicator LED, which is visible in varied lighting conditions. When the device is disarmed for an extended time in the **bypass** mode, the LED will maintain a slow green flash. To reactivate the DE9000 from the **bypass** mode, **authorized egress** needs to be activated. The DE9000 will re-arm in 10 or 20-seconds determined by whether the J6 Jumper is on (10 seconds) or removed (20-seconds). When activated for **authorized egress**, the LED displays a rapid green flash until the device automatically rearms. When the touchbar is depressed for exit, the nuisance alarm will sound while the LED remains solid green. *[See photograph 6.]* In the 15-second irreversible delay cycle, the LED turns solid yellow. *[See photograph 7.]* In the alarm state, the LED is solid red. *[See photograph 8.]*

- **Key Switch Control**—This integral key switch provides the means to locally rearm the device from the alarm state, disarm for authorized egress, and set the device for the **bypass** feature. A mortise cylinder (DORMA 90 X 10 DC 118) is supplied with the device. *[See photograph 9.]*



6. Nuisance alarm (Solid Green).



7. 15-second delay (Amber).



8. Alarm (Red).



9. Rearmed (Green) under key switch control.



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Wired for options

The DE9000 delayed egress exit device offers a variety of options to add security and functionality to the opening.

The exit device has several terminal block connections extended from the 22" wire "pigtail." They are color coded to allow easy connection with wiring from remote locations or central security stations. [See illustration A.]

Additional features and field-selectable options include:

- **Local or Remote Alarm**—The device has an internal 85 dB alarm which will sound indefinitely in the alarm state until the device is reset. Additionally, two relays (Green Wire N/O, Brown Wire Com.) and (Blue Wire N/O, Yellow Wire Com.) with normally open contacts are provided for activating external local or remote audible/visual signaling devices.

- **Remote Authorized Egress**—This function (White Wire) allows override of the device in the armed state. The device will unlock for egress and automatically rearm to the delayed egress mode in 10-seconds. A field changeable jumper allows a 20-second reset. Typical activation devices include DORMA's CC-400 Series remote consoles, DORMA's AC217 Keypad, DORMA's K702-6 Key Switches, or card readers (by others). This input is controlled with a momentary action normally open switch.

- **Remote Rearm**—Remote rearming (White Wire) of the device is allowed from the alarm state. Typical activation devices include remote consoles or key switches. This input is controlled with a momentary action normally open switch. Consult local authority having jurisdiction when using this feature.

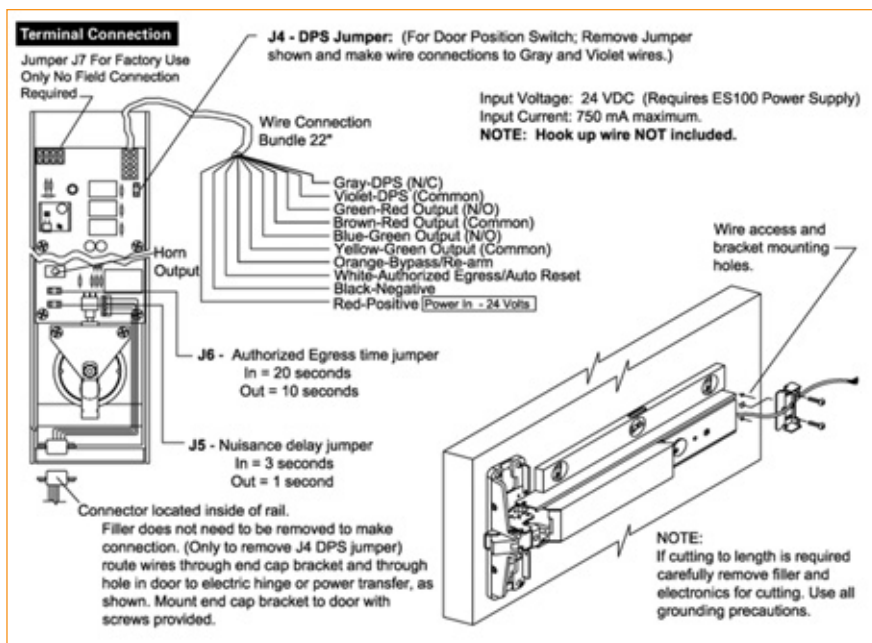
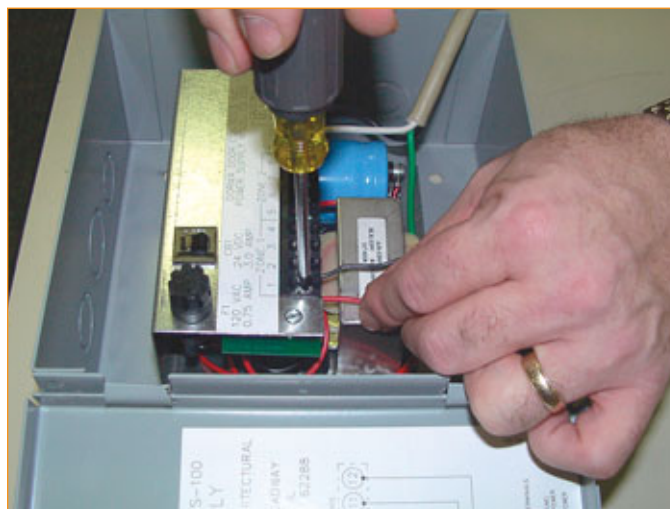


Illustration A.

- **Door Position Input**—An input (Gray Wire N/C, Violet Wire Com.) for use with an external door position switch is provided. This input switch is a maintained action normally closed contact. The device a l a r m s simultaneously with the contact opening. The door is prohibited from being forced or held open unauthorized while the device is armed. The authorized egress and bypass functions ignore the door position input for authorized exit or entrance.



10. 24 VDC wire connection.

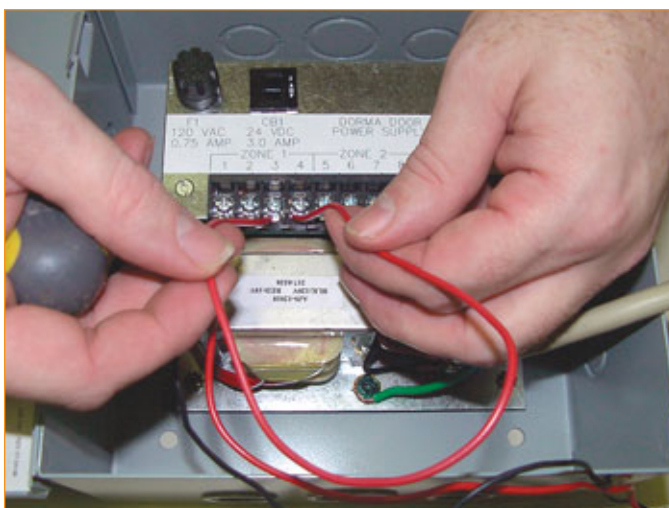
Get a Fix On It

Invariably, installation issues crop up from time to time. Here are some of the most common problems encountered in the field.

Exit Device Installation: Mechanical problems with the door and exit device will prevent the delay and alarm system from working properly. Make sure concealed rods and latching

mechanisms are mechanically working and that the door is seated correctly. The DE9000 Delayed Egress Exit Device must work correctly prior to connecting the electrical applications.

Reversed Wires: Installers sometimes inadvertently reverse the wires from the power supply to the device. Interchange them. The Black Wire (Negative) must be connected to the Negative Terminal of the DORMA ES100 Power Supply. The Red Wire (Positive) must be connected to the Positive Wire of The DORMA ES100 Power Supply. There MUST be a Jumper Wire installed in the DORMA ES100 Power



11. Jumper wire to trigger.

Supply Trigger input for power to flow from Positive and Negative Terminals.

If Output 1 & 2 of the DORMA ES100 Power Supply is being used (see photograph 10) to power an ES9000 Delayed Egress Exit Device, a Jumper wire needs to connect Terminals 3 & 4. [See photograph 11.] If Output 5 & 6 of the DORMA ES100 Power Supply is being used to power an ES9000 Delayed Egress Exit Device a Jumper wire needs to connect Terminals 7 & 8.

Wire Damage: On hollow metal frames and hollow metal doors, if you are not careful, you can scrape the plastic insulation off the wires when pulling them through the holes, which can cause an electrical short circuit. Be careful when pulling them and check the insulation if failure occurs.

Multiple Wire Lengths: Rather than using multiple connections to strand wire from the power supply to the exit device, run a single conductor between the two. You'll prevent the possibility of connection or joint failure.

Inverted Mortise Cylinder: The keyway part of the cylinder should point toward the touchbar and rail assembly when installed. Don't put the mortise cylinder cam inside the channel that is used to arm and disarm the DE9000. Keep it outside

the channel so the keystroke movement will travel almost 360 degrees in order to activate the contact.

Incorrect Wiring:

Double check your wiring if the device is not registering properly with your control and security system.

DORMA helped eliminate that problem using color-coded pigtailed to connect with your system. Also, make sure you use wire nuts, or that you solder and use heat shrinkable tubing. Do not use telephone gel type crimp connectors.

Working For a Living

Maintaining the DE9000 exit device takes only an hour or so each year. Keep the moving parts

such as latch bolt mechanisms well lubricated with lithium-based grease; in extreme salt and sand locations, use graphite. Periodically check the wire connections, making sure everything is tightened and wired together. Test the alarm and delay function periodically.

While the DE9000 delayed egress exit device has a two-year warranty, it can provide a many years of reliable service if installed and maintained correctly.

For more information contact DORMA Architectural Hardware at: Phone: 800-523-8483 or 717-336-3881; Fax: 717-336-2106; E-Mail: archdw@dorma-usa.com; Web: www.dorma-usa.com.

Michael Messner is the Technical Services Representative for DORMA Architectural Hardware, DORMA Group North America.

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by
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In the first article from the Ingersoll-Rand series, different options were covered for each of the three entrance doors used at the facility. The CM5100 was chosen for the service doors because of its versatility and programming compatibility with the CT1000 that was used on the front entrance. Both can be managed and programmed by using the LockLink Express III software.

Some of the interesting features of the software were discussed in the January 2004 issue. In this article I will cover the insides of the CM5196 and talk about the options available.

The CM 5196 that will be used at Ozark Refrigeration is a member of the CM5100 family. (See [photograph 1.](#)) The list of functions, models and options are listed at the end of this article.

The CM5100 series lock is a stand-alone, microprocessor controlled, electromechanical locking system. It has a heavy-duty mechanical design that has fewer moving parts than a standard cylindrical lockset. It is powered by four AA batteries that should last for around 80,000 cycles.

The outside lever is normally locked and the inside lever is free to allow anyone to exit. To gain entry, a valid credential (code, Prox, etc.) must be used. The one exception to the credential is an emergency mechanical key override. The cylinder provided is a Schlage Everest mortise cylinder.

[Photograph 2](#), gives a good view of the outside rear of the assembly. To take a look at the insides, a few pieces have to be removed.

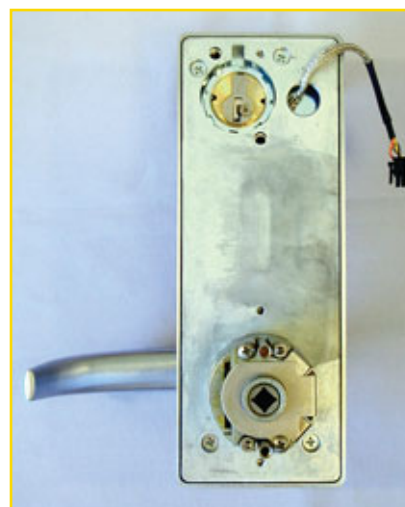
The retractor assembly is first and consists of two pieces. The actual retractor is held in place by two 9/64" Allen head screws. (See [photograph 3.](#)) Two #2 Phillips head screws (see [photograph 4](#)) hold the rest of the assembly in place. (See [photograph 5.](#))

Next the mortise cylinder is removed with a special tool that is provided. (See [photograph 6.](#)) However, before trying to unscrew the nut, be sure to flatten the tab on the lock washer.

Continued on page 66



1. The CM5196 stand-alone, microprocessor controlled, electromechanical locking system from Schlage.



2. A rear view of the outside assembly shows the retractor, wiring harness and mortise cylinder.

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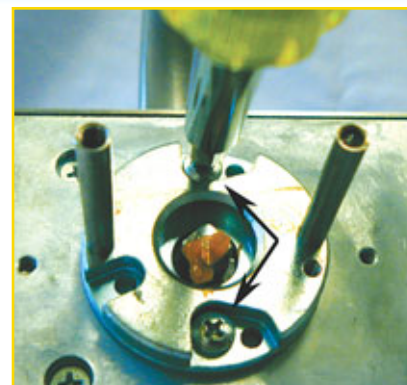
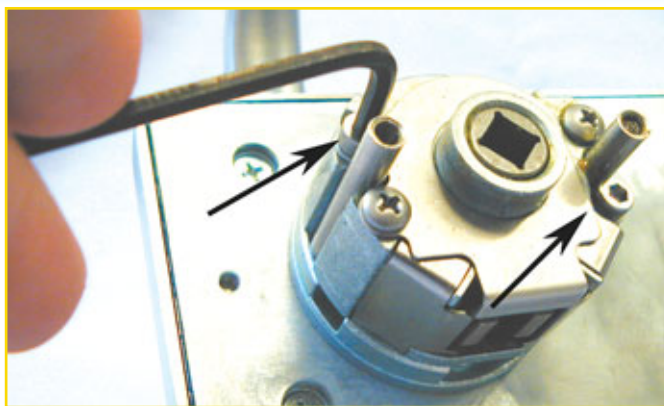
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3. The retractor is held in place with two 9/64" Allen head screws.



4. The remainder of the retractor assembly is held in place with two Phillips screws.



5. With the two screws removed, this part of the assembly will fall into your hand.



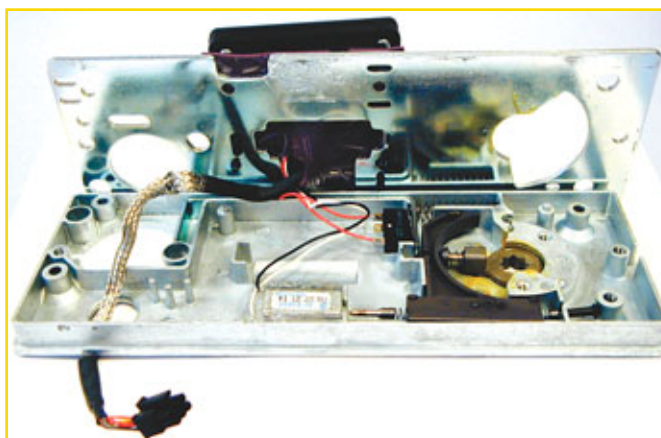
6. A special tool is provided to make removing the mortise cylinder a simple task.



7. This is the outside escutcheon with the outside assembly removed.



8. The outside assembly has two screws that hold it together.



9. With the two screws removed, you get to see the good stuff!

With the mortise cylinder and retractor assembly removed, there are only four Phillips screws remaining that hold the outside escutcheon to the outside assembly. (See photograph 7.)

The wiring to the keypad, motor and mechanical key override mechanism is inside of this assembly. Only two screws hold it together. (See photograph 8.)

With the two screws removed, you can see all of the goodies inside. (See photograph 9.) I found two parts of this assembly interesting. The first was the engaging pin that allows the outside lever to actually turn something. (See photograph 10.)

When engaged, the pin slips into a notch in the outside lever assembly. (See photograph 11.) This allows the outside lever to rotate the cam which in turn rotates the outside spindle. Obviously the spindle is attached to the retractor and so on and so on.

In a normal locked condition, the pin is held up by spring pressure and would not engage the outside lever assembly. (See photograph 12.)

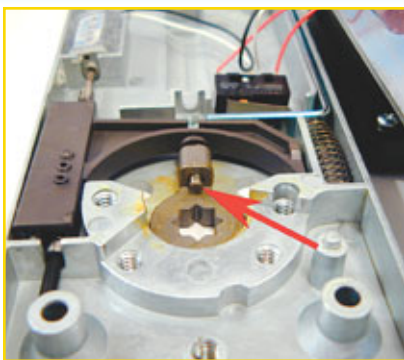
When a proper credential is used, a small motor (see photograph 13) causes the pin to move down-

ward allowing it to engage the outside lever. (See photograph 14.)

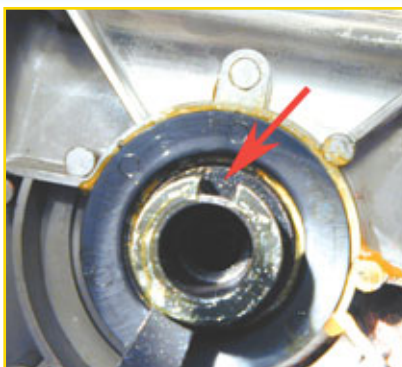
The second interesting part is the mechanical key override. There is a metal bar that moves up and down, inside a channel in the assembly. (See photograph 15.)

With the key removed, the bar can be seen from the back side of the assembly. (See photograph 16.) You can also see in photograph 15, that the pin is not in a position to engage the outside lever assembly.

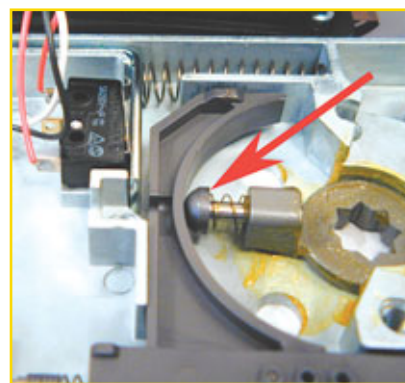
When the key is rotated, the tailpiece of the mortise cylinder



10. This is the engagement pin that allows the outside lever assembly to retract the latch.



11. Here is the notch in the outside lever assembly that mates with the engagement pin.



12. In the locked condition, the pin is held up by spring pressure.

forces the bar down. (See photograph 17.) When the bar is forced down, it not only causes the pin to engage the lever assembly, it also activates the relay (optional.) associated with the mechanical key override audit trail. (See photograph 18.)

When reassembling, there are two things to look out for. The first is to make sure the wire is properly threaded through the three posts before replacing the cover. (See photograph 19.) The

second is to be sure to replace the two special nuts (see photograph 20) that are used to attach the two standoffs needed during the installation. (See photograph 21.)

A look at the inside assembly shows the electronic circuit board. (See photograph 22.) A lot of things happen here. All of the wiring connections connect to this board. The holder for the four AA batteries is also connected to this board.

There is a lithium battery used as a memory backup that is located on this circuit board. The clear and initialize switches, used when installing a new lock are located here. You will even find an open and a close test switch on this board.

The inside housing holds the inside lever and return spring. (See photograph 23.) An inside spindle (back to photograph 21) connects the lever to the latch retractor assembly. That's about all there is to the inside of the lock.

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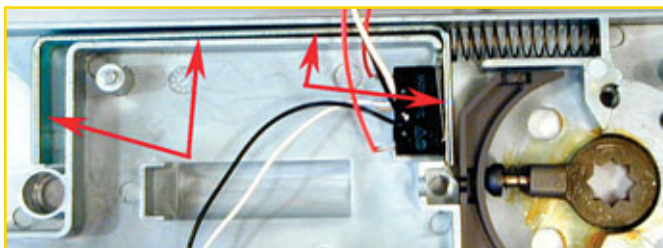
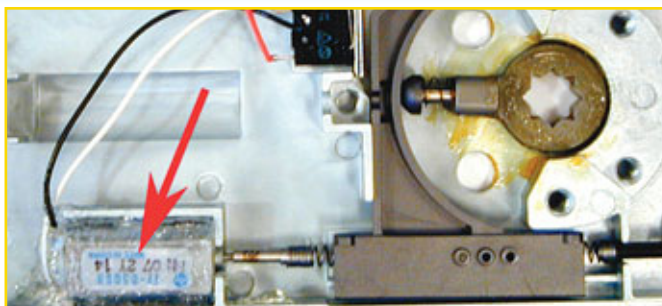
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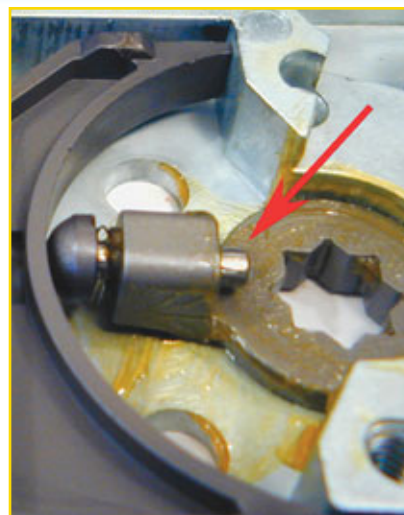
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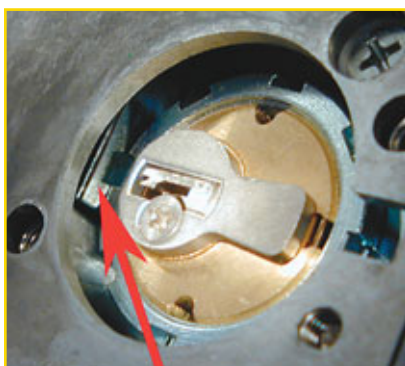
13. When a valid credential is presented to the lock, a small motor forces the engagement pin to its unlock position.



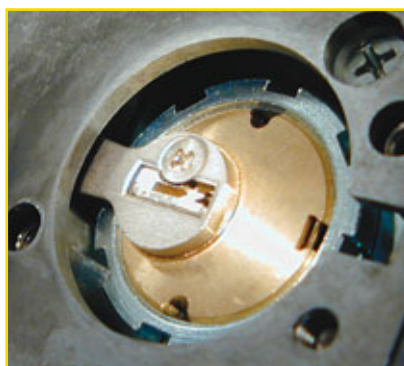
15. A flat bar is used in conjunction with the manual key override to accomplish the same thing as the small motor.



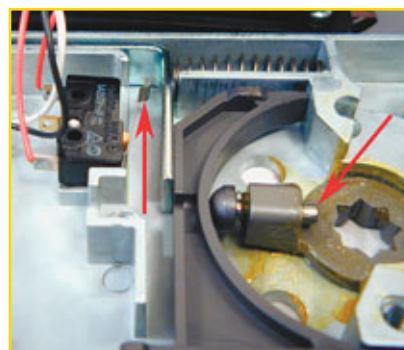
14. Here is the pin in the unlock position.



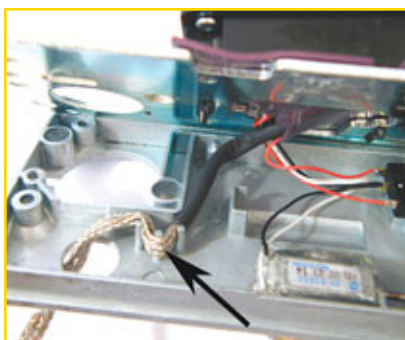
16. Here is the flat bar as viewed from the rear of the assembly with the key removed from the mortise cylinder.



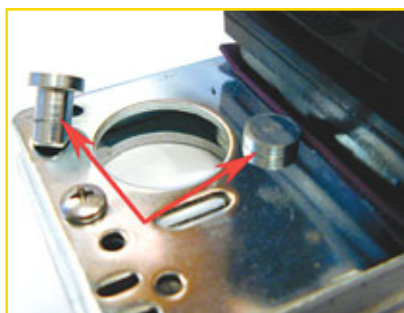
17. When the key is inserted and turned, the tailpiece of the cylinder forces the flat bar down.



18. With the bar forced down, two things happen. The pin is forced to the unlock position and an optional switch is activated.

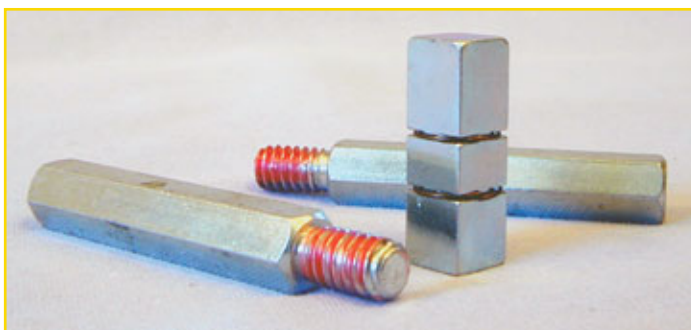


19. Before replacing the cover, be sure the cable is wrapped around the three posts properly.



20. Before replacing the outside escutcheon, be sure to replace the special nuts used to hold the stand off bolts.

21. Here are the two stand off bolts along with the inside spindle.



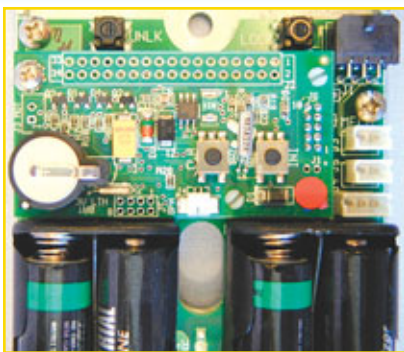
Next month I will install the CM5196 and program it with a hand held pocket PC. (See [photograph 24.](#)) The pocket PC makes the programming very simple. Before I go I want to list the functions, models and options that are available for the CM5100.

There are our functions available:

- 5190: Office
- 5195: Privacy/Dormitory
- 5196: Storeroom/Classroom
- 5198: Storeroom/Classroom with inside iButton reader

The different models include:

- KPI: iButton reader and keypad
- IBO: iButton reader only
- MGK: Magnetic strip card reader, iButton reader and keypad
- MGI: Magnetic strip card reader and iButton reader



22. The inside housing assembly holds the electronic circuit board.

- PXX: HID Prox card reader, iButton reader and keypad
- PXI: HID Prox card reader and iButton reader
- PRO: Keypadonly, no computer programming, 100 code memory

The different options available are:

- ATK: Audit trail of mechanical key use
- HSS: High security screws on inside
- SLB: 2-3/4 backset with 1/2" latch bolt



23. Here is the inside escutcheon.

- OLB: 2-3/8 backset with 1/2" latch bolt
- ELB: 2-3/4 backset with 3/4" latch bolt
- T3: Track 3 card reader
- KD: Keyed different, includes Schlage Everest cylinder
- LC: Less cylinder



24. This is the iPAQ Pocket PC that will be used during programming in the next article.

For more information on any of the above products, you can contact Ingersoll-Rand at IR Security & Safety, 111 Congressional Blvd., Suite 200 Carmel, IN 46032 or call then at 317-613-8150. They also have a web site at www.irsecurityandsafety.com. Circle 394 on Rapid Reply **IRL**

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Beginner's Corner



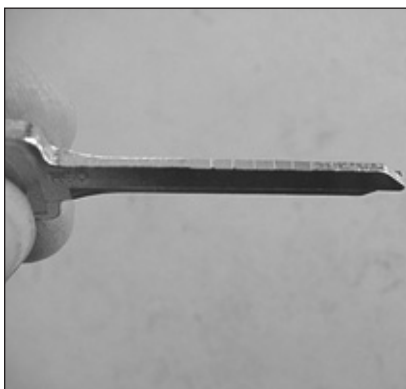
By Ken Holmlund

Originating Ford 10-Cut Door Lock Keys

Ford introduced the 10-wafer system in the 1984-1/2 model year vehicles. Several variations on the original system have been used over the years, but the most common is the 10-wafer, with six in the ignition and six in the door, two of which overlap between the two locks. Ford uses a sidebar lock in the ignition, but does not use one in the door. As a result of this design, we are able to impression the door and make keys from those cuts to complete an ignition key.

DOOR LOCK IMPRESSIONING:

Prepare the key as you ordinarily would for impressioning by cleaning the blade surface to a clean mirror polish. I prefer to use the code machine to prep the key and make the cuts because I find it to be more accurate than just using a Pippen file and guessing at the depths. If you have a code machine or a clipper, cut the first six cuts to a one cut. (See *photograph 1.*) Depending



1. Prepped key.

on your machine, you may find the cuts did not take all the coating off the blank so you may have to clean the rest with a file to get a clean space to see the markings. Don't worry about going too deep here because the Ford system is none too accurate. Just take enough off the blank to remove the coating and expose the softer brass.



2. Impressioning the lock.

Insert the blank into the door lock with the cut side down, then twist and bump the blank to make a mark. (See *photograph 2.*) If you are not proficient in the art of impressioning, I suggest you use one of the other methods I will describe later. Remove the blank and clean it to remove the dirt and grime that will most likely be on the key. I usually just wipe it on the leg of my pants, but you can use a cloth with the same effect. Cut the marks you find to a number two depth and reinsert the key. Continue until you have a working key. Note the depths of the fifth and sixth cuts, as you will need them to make the key for the ignition.

Many of the Ford vehicles on the market do not have lighting



3. Style of Ford door lock.

associated with the door lock, see *photograph 3*, and usually have access to the horseshoe lock retainer on the side of the door. (See *photograph 4.*) If you are not proficient at impressioning or



4. Retainer on side of door.

have not been able to make the key for some reason, removing the lock from the door may be the preferred method. This is accomplished by removing the retainer and sliding the lock out the hole. You will find the linkage is attached to the back of the lock and will have to be dealt with at this time. (See *photograph 5.*)

I find it is not very difficult to simply pull the lock out far enough to get to the plastic pawl that attaches to the back of the lock. I just use a screwdriver to remove the lock from the plastic pawl and

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5. Linkage attached to lock.

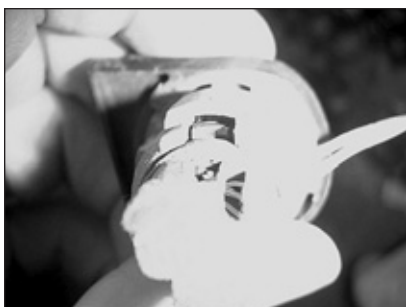


6. Clips holding linkage.

I place a clip on the linkage to keep it from slipping back into the door. (See photograph 6.) If it slips, you will be adding considerable time to doing the job, so be careful to prevent that from happening.

With the lock out of the door, I then take it to the truck and proceed to cut the key by sight-reading of the wafers. I find I usually have to clean the old grease out of the lock before I can view the wafers clearly, but that is not a major project.

With the blank inserted, you will find one side of the wafers are below the sheer line and the first one you will see is the number six cut. (See photograph 7.) Estimate the depth of the cut from the height of the wafer and cut the key in the number six space one depth shallower than you estimated. It's easier to cut deeper,



7. Wafers as seen from back of lock.

but you will have to start over if you cut too deeply.

When you have the sixth wafer to the sheer line, cut the fifth the same way. Ford does not have more than a two cut difference between adjacent wafers so if the sixth cut is a one, the fifth will not be deeper than a three. Cut all six cuts using the same system and the plug should turn easily in the lock. If it catches, you probably have cut one depth too deeply. Look at the lock from the back again and see if you can see any wafer below the sheer line. If the answer is yes, cut the other side of the key with that wafer cut shallower and try the key again.

This particular lock uses a convenience key and therefore needs only be cut on one side to work. If it works, you are set. If it does not work, I suggest cutting another key with each depth one shallower and then progress the key one cut at a time until it works smoothly. When you are within one depth of each cut the key may well turn in the lock and should leave you with a nice set of impression marks to tell you which spaces to cut deeper.

I find it very helpful to record the depths for each space as I establish them. I use a system of ten dashes to indicate the spacings and write the cuts on the dashes as I cut them. Especially important are the fifth and sixth spaces as I indicated earlier. These are the two cuts that the door and ignition have in common and will be needed to make the ignition key.

You are now ready to replace the lock in the door. Carefully replace the lock into the notches of the pawl and snap it into place. I suggest having at least one of each of the plastic pawls in stock because they do break, especially in bitter cold weather. ASP has an assortment of these parts for Ford in the kit number is A-32-301. Be careful not to let the linkage slip into the door, or you may be

taking the door panel off to get the workings lined up again. With the lock in place, turn and push the linkage and lock back into place and slide the retainer back on the body of the lock through the hole in the side of the door.



8. Tabs on retainer.

The retainer may have two small slivers of metal that will need to be removed to facilitate the installation of the retainer (See photograph 8.) Check for these pieces and if they exist, remove them before attempting to slide the retainer into place.

Once the retainer is in place, check the lock to be sure the retainer is engaged with both sides of the lock. Do this by placing the key in the lock and lifting and pushing down on the lock. It should be solid. If it pulls out more than $\frac{1}{16}$ " or so, you do not have the retainer in correctly and will need to pull it out and replace it again. Be sure this is done correctly or the retainer may fall out and the lock will do the same.

Try the key in the lock to make sure it will lock and unlock the door. I suggest you try the key in the other door as well.

If you would rather not remove the lock from the door, or if you encounter a lighted lock with wires attached, another method is available for getting a working key for the doors. I am speaking about the Determinator by Car Openers, Inc. (See photograph 9.) The Determinator simply reads the cuts of the key and enables you to cut a key from your readings. I wrote a **Test Drive** article that appeared in the January 2004



9. Determinator.



10. EEZ Reader.

National Locksmith that gives more information on using the tool. Take a look at it and decide if it looks like something you would like to employ in your arsenal of tools. A similar tool is available from EEZ-READER by H. E. Mitchell, and may also be useful in your key making activities. (See photograph 10.)

One other possible method of making the key for the door is using tryout keys. (See photograph 11.) These are available from Baxter (Set 65A) for doors only and the set (102) for both doors and ignition. Aero Lock also makes tryout keys and their set numbers TO-40 and TO-56 are for 10-wafer door locks.

Tryout keys can be very helpful when you find an ignition that has been changed, even if the person changing the ignition had matched the two overlapping cuts. I recently found just such a case. The remaining four cuts on the key did not match anything that Ford had originally used, and I was able to turn the lock by inserting the tryout keys and wiggling them vigorously. You will need to turn the ignition before removing it, and when you get it out you can then match it to an original biting.



11. Tryout Keys.

This may not qualify as a locksmith related topic exactly but I would like to interject a personal note here. As you may well suspect, Montana gets very cold during the winter months. Can you say 30 below zero? I have very dry skin and have had an ongoing problem for the 20-plus years I have been doing this profession. That problem is cracked thumbs and first fingers. This can be quite painful and I have searched for a good answer to the problem for years. Well, I have found one. It is a product called Zim's Crack Crème and it works. (See photograph 12.) It can be found in many drug and



12. Zim's Crack Crème.


discount stores shelves. If you have the same problem as I have just described, give Zim's a try.


Next month I will go into the procedures of cutting tryout keys to make the ignition key from your door key. It is information you will need if you want to work on these vehicles. Until then, if you have the opportunity I suggest going to a local wrecking yard and seeing if they will let you practice on a couple of vehicles in their lot. Noting helps the confidence like using newfound information to succeed in a new endeavor.

See you next month. **RL**

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The Lighter Side

Why Lock and Keys? Part 1



by Sara Probasco

Have you ever tried putting yourself in your customers' point of view, and wondered what locks and keys really do for them? Well, you might say, keys can get them into things—or out of things (assuming there are appropriate locks in place, of course). Many would say, "If they have something special that they want to keep hidden away from others, they should lock it up." There even used to be a saying that if somebody didn't conform to what you wanted, you'd "Lock them up and throw away the key." Not a good idea, even today, but back then it would have been even worse, when getting a lost key replaced might have posed a serious problem. Nowadays, there's a locksmith on every corner eager to do the job.

That presents another kind of problem. When we operate in close competition, prices suffer. There always seems to be one or two locksmiths who insist on practically giving away their services, for one reason or another. Some even pride themselves on it, advertising that they're the cheapest locksmith in town. Maybe they think they'll stay busier than the others that way. Don't they know they could work less hours and make the same money by charging a little more and keeping the general price structure on a more even keel? I'm not talking about price fixing here, just charging a reasonable price for the work done. Not only does that bring a reasonable wage to the locksmith, it elevates our profession in the eyes of the public. After all, if we don't think our work

is worth much, why should anybody else?

Besides, charging a fair price contributes to the "customer responsibility factor." Look at it this way, if locksmith services were free, who would care if they lost their keys? Other than being faced with the inconvenience of waiting to be let in, or to get another key made. Why would anybody worry about keeping up with keys? (On the other side of the issue, if the locksmith received no compensation for his or her work, he or she might soon lose interest in performing a good, quick job for the customer.)

But I digress.

Getting back to the subject at hand, there are a lot of reasons why people use (and lose) keys. Psychologists tell us people who repeatedly lock things up and then lose the keys have some kind of problem within themselves. Subconsciously, they may want company, a visitor, someone to come to the house and talk with them, or do something for them, even if they must pay for it. They may have a fetish for collecting keys, or they may simply be careless or forgetful. Whatever the reason for this repeated problem, most locksmiths encounter one or two customers who seem to have a recurring need for our services.

Let's take a look at what security really means to most people.

1. Peace of mind?

Wow! Can that be accomplished with locked doors? Maybe, but you might want to ask somebody who's

been locked up in jail about that concept. It's been said, "There hasn't been a lock made that a thief can't get into," and "Locks only keep honest folk out." There's a grain of truth in that, but we know someone trying to randomly break in for "fun and profit," look for places where he can get in and out quickly and quietly. Good locks and alarm systems when properly used can (and do) deter such crimes, diverting the thief to an easier target, which there always is.

(Be sure you tell your customers about this!)

2. Protection from personal harm?

How many really believe they're vulnerable to personal injury from a break-in? Oh sure, it happens, but not to them, they say.

In a recent survey where the average man on the street, was asked if he ever worried about someone breaking into their home while he or family members were there. The majority said something like:

"I never thought about anybody breaking in while I'm at home or asleep at night," or, "I can take care of myself," or even, "I could talk them out of hurting me."

Few considered the possibility of surprising a thief who might have thought the house was empty, or dealing with a potential rapist.

I remember reporting on a particular situation involving a young mother of three.

"I always locked up when I left the house, but I was never very careful about it when I was

at home," she told me. "It never occurred to me that anybody would try to come in while I was there."

Then, one morning after she'd gotten the kids off to school, she stepped from her shower wrapped in just a towel and ran to the front hall closet to get something from her purse. As she turned the corner by the dining room, she saw a man bending over the buffet, going through the drawer that held her silver flatware. Gasping, she staggered back just as his eyes met hers. He grabbed her grandfather's silver-handled carving knife and sliced her to pieces. Then he cleaned out the silver drawer and left her for dead.

The silver was never retrieved.

The man was never caught.

The woman was never the same again.

"I'm just glad it was me, and not one of the children," she added.

She keeps her doors locked now, especially when she's at home.

3. Protection of property?

By far, this is the most important aspect of locks and keys in the mind of the public. When a person installs an alarm system or purchases and installs locks, it's usually with theft, more than personal danger, in mind. The main thing we want is to keep the thief out of the house, or warn someone if he does get in so that he may be scared away or apprehended. What if he knows this, bets he can do his damage and be gone before anybody comes to stop him?

Following the third break-in of a local jewelry store located in a strip shopping center, I interviewed the owner. He laughed, saying he'd considered taking out an ad to the thief, saying there was nothing left to take, so please go somewhere else and leave them alone. The thief had entered the building by way of the roof—common to the entire shopping center. He'd

managed to get into the attic, then broke into several stores in the extended building by lifting out the acoustical tile ceilings and climbing down into the various stores. It took a while for the store owners to figure out what was happening, as there was no internal evidence of forced entry. Not until we had a hard rain (a rarity in southwest Texas) did the leaking roof clue them to his entry point.

When I spoke with the jeweler, he said they weren't carrying

insurance any more, because there was little left to insure. They kept the store open, hoping the thief might return and be apprehended before they moved their business to a more secure location.

So what is the answer? An attack cat? A live-parrot alarm? More on this next month.

In the meantime, keep smiling. (It makes people wonder what you're up to!) **TRM**



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Mosler's Large

Fire Safe

by Dale W. Libby, CMS



Maybe you have seen it all. I have not! I still get a thrill when I meet a tough safe opponent that offers me the chance to mess up. This large Mosler fire safe pictured is just such a monster. (See *photograph 1.*) It did have the regular Mosler plastic dial and ring, but I removed it before I took this photograph. There was another problem with this unit even before we (Bob Sieveking and I) started to open this unit.

The opening handle on this safe is shown in the locked position. Yes I know it looks like it is in the open position, but it is locked and moves freely in a 45



1. Large Mosler Fire safe with handle in the Locked position.

degree arc. Someone had tried to force the handle open. There is a shear line on the spindle of this handle, but the blunt force trauma was not enough to break the handle. It just rounded out the hole in the long plate attached to the spindle on the inside of the unit to let the handle turn in a large arc. There was enough left to throw the bolts however, and for that I was grateful. After opening the safe the handle hole was hammered back into correct flatness and it did work properly.

Next, where to drill? There was quite a bit of distance between the dial and handle, so before consulting any safe books (which I now consider the easy and smart way to do it) I decided that the lock was mounted Horizontal

Left. It was a good guess, but an incorrect one. No harm done, for with the help of a Hawkeye Borescope, all holes are eventually good holes.

In *photograph 2*, you can barely see the drilled hole next to

the steel banding that is attached to the safe with a large magnet. One edge of this steel band is used as a makeshift pointer to read the numbers on the attached dial. The hole was drilled at location "G" on the StrongArm Mini-Rig #2 base template for Mosler locks. This "G" location also works for S&G combination locks as well. With the attachment of a small mini-dial to the stub of the dial spindle, we had an easy way to transfer and read the gates in the wheels with our borescope.



2. Mini dial attached with banding steel to act as indicator.

If I had correctly surmised the handing of the lock as Vertical Up, and placed the template accordingly and drilled in the correct position, then transferring of the wheel gates is not necessary. When correctly positioned, the fence and the wheels can be seen

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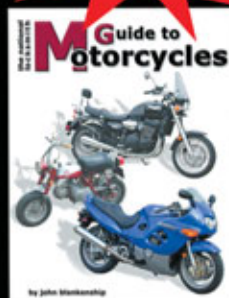
Key information • Progression Charts • **BMW** 1997 R1100R • **Harley-Davidson** 1938 Knucklehead, 1970 Sportster, 1980 Sportster, 1984 Wide Glide, 1994+ Tubular Ignition Lock • **Honda** 1968 Mini Trail 50, 1970 Trail 90, 1971 CB750, 1978 CB750, 1978 Hawk, 1981 CB900, 1982 Ascot, 1983 Shadow, 1984 Nighthawk, 1985 Rebel, 1990 Gold Wing, 1996 Nighthawk 750, 1996 VFR750 • **Kawasaki** 1980 LTD250, 1985 Ninja 600, 1993 KLX650 Ignition Lock, 1994 Ninja Gas Cap • **Neiman** Steering Lock • **Suzuki** 1986 Intruder, 1990 Katana 600, 1991 GSXR1100 Ignition Lock, 1998 Katana 600, 1999 TL1000R • **Triumph** 1995 Tiger, 1999 Legend • **Yamaha** 1980 650 Twin, 1987 FZR1000 Ignition Lock, 1987 Virago, 1992 Yamaha/Polaris 4-Wheeler Ignition Lock, 1998 V Star Classic, 1998 YZF600R

Volume 2 covers...

Key information • Progression Charts • **BMW** 1976 R90/6, 1989 K100RS, 1995+ Ignition Lock, 1999 F650, Luggage using Y61 • **Buell** 2000 Blast • **Ducati** 1993 Monster • **Harley-Davidson** 1999 Road King Police, 1999 Sportster • **Honda** 1975 CB550 Ignition Lock, 1980 CB400 Ignition Lock, 1983 CB650 Ignition Lock, 1985 Aero Ignition Lock, 1995 Gold Wing Luggage, 1987 250X 4-Wheeler, 1990 NS50, 1992 Shadow, 1994 CB250, 1997 Shadow, 1998 CBR1100XX, 1999 CBR600F4, 1999 CBRX1100XX, 1999 Shadow, 2000 CBR600F4, LIPO 5-cut Ignition Lock, LIPO 8-cut Ignition Lock, • **Kawasaki** 7-cut Code Information, 1980 LTD250 Ignition Lock, 1983 GPZ Ignition Lock, 1986 ZX600R Gas Cap, 1986 ZX600R Ignition Lock, 1987 EX500 Ignition Lock, 1989 EX500, 1991 ZX-6, New Blank • **Suzuki** 1968 T500, 1981 GS550 Ignition Lock, 1986 GSXR750RG Gas Cap, SM-2 Ignition Lock, SM-4 Ignition Lock • **Triumph** 1970 Bonneville, 1973 Tiger, • **Yamaha** 1980 XS650, 1982 Seca 400, 1982 XV920 Ignition Lock, 1984 FJ600, 1986 FJ1200 Gas Cap, 1989 Riva Jog Ignition Lock, 1990 XT350, 1993 Seca II, 1996 Royal Star, Cruiser Ignition Lock • **Zadi** Q637 Ignition Lock, Q933 Ignition Lock

Volume 3 covers...

Key information • Progression Charts • **BMW** 1999 R1100GS, Luggage using X59 • **Honda** 1975 CB500T Ignition Lock, 1980 CB750 Custom Ignition Lock, 1980 CM400T, 1983 CB450 Nighthawk Ignition Lock, 1985 Big Red, 1987 Elite 250, 1987 Elite 250, 1997 CBR600F3, 1999 Shadow ACE Deluxe, 2001 CBR1100XX, 2001 Gold Wing, 2001 XR100, 2002 VTX1800, Cruiser Ignition Lock • **Kawasaki** 1979+ Ignition Lock, 1982 KZ1000 Ignition Lock, 1986 ZL600 Ignition Lock, 1992 ZX6 Seat Lock, 1995 KLR250 Ignition Lock, 1998 ZX9R Ninja, 2000 Concours, 2001 250R Ninja, 2001 500R Ninja, 2001 KLR650, 2001 ZX12R Ninja, KM-5 Ignition Lock • **Moto Guzzi** 1979 V 50 II • **Suzuki** 1979 GS750 Ignition Lock, 1985 Ignition Lock, 1986 GSXR750, 1990 GSXR750, 1997 DR650, 1999 Savage, 2001 GSXR750, SM-5 Ignition Lock • **Yamaha** 1972 Enduro 100, 1977 Enduro 400, 1978 XS750 Triple, 1982 XZ550 Vision Ignition Lock, 1984 QT, 1989 V Max, 1992 TW200 Ignition Lock, 2002 BearTracker



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at the same time through such a hole location. The hole comes in just above the lock lever and affords an attention-grabbing view of the insides of the lock, with no harm to any lock components.

This puts you into an empty area of the lock with a great view. Thanks Dave McOmie. Even though we drilled at a not so correct area of the lock, our view was still terrific and we did no damage to any internal components. The safe had a good hardplate, but the StrongArm drill bit made short work of it.

Just to show that Bob Sieveking is a safeman too, I am including his picture in *photograph 3*. This is before we attached the band to the safe door and knew we had to transfer the gates to the proper opening location.

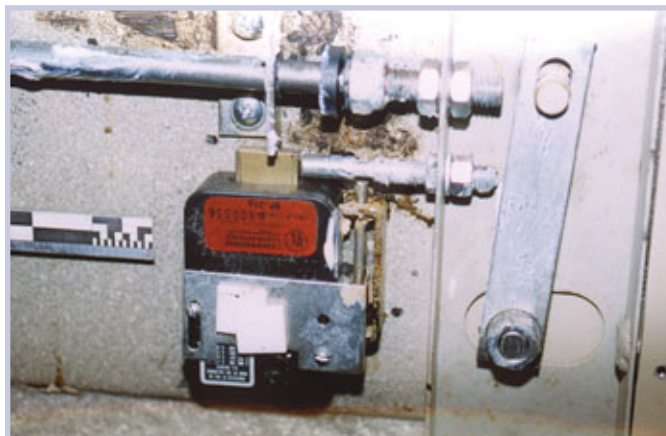
Transferring the gate locations went off without a hitch and the lock opened. I grabbed the floppy handle and turned it clockwise, the bolts withdrew and the door opened. All slight misunderstandings (oversights) were forgotten at this point.

Photograph 4, shows the Mosler 302 lock in the locked position. As we can easily see, the lock is mounted Vertical Up. When the bolt is out, it blocks the horizontal movement of the lower short bolt attached to the edge of the bolt retraction bar. The larger longer upper horizontal bolt is part of the bolt detent system. When the locking bolt bar is thrown to the open position, this mechanism keeps the bolts in the open position until the door is closed.

Also, just to the right of the combination lock is a large vertical bar. The bottom of this bar is attached to the outside bolt handle with a large nut. The part under the nut was rounded out which let the handle turn. This bar attaches to a pin 4" above on the bolt



3. Bob Sieveking using a short Hawkeye scope to view and transfer numbers.



4. Inside view of Mosler 302 in locked position. Note relock pin to the right of lock in this picture.



5. Lock open, the short lower pin can be moved over the lock to pull the bolt bars back.

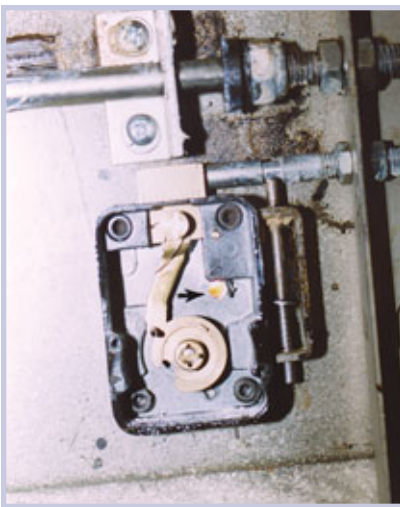
channel. This withdraws the bolts when the handle is turned. Also note the spring loaded relock pin to the right of this lock as seen in this photograph.

In *photograph 5*, the bolt is withdrawn and the lock open. This is to show that the combination lock bolt of a Mosler lock is flush with the outside of the case of the lock when open. If you are trying to replace this lock with another brand of combination lock, you will have to be sure that the bolt is flush when the bolt has been retracted into the case, or there will not be enough clearance to work in this configuration. This can be accomplished by modification of the length of the new lock combination bolt.

In *photograph 6*, the relock pin has fired because the cover to the lock was removed. The spindle has been pushed out a little allowing the lock lever to drop behind the drive cam. The arrow points to the incorrectly drilled hole in the safe. This gave us a great view of the edge of the wheels and made transferring easy.

I have been up against this relocker a number of times. I drill about 1-1/4" to the left of the lock just a little above the spindle hole with a 1/4" hole. There is a twofold purpose for drilling at this location.

One is to hit the relock spring and destroy it. Once a mangled mass, the relock pin will drop enough to let the safe open. Secondly, if you drill just right, the edge of your drill bit will hit the pin and withdraw it for you while drilling. Put pressure on the handle when



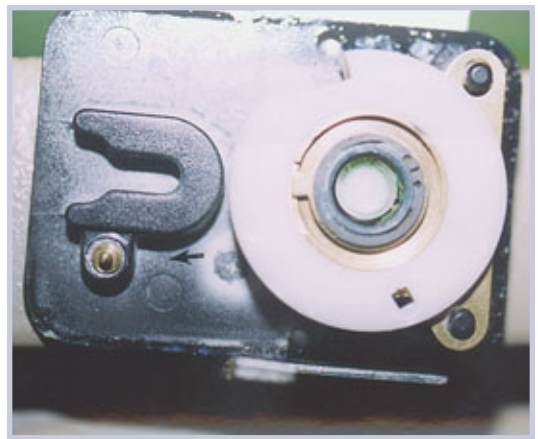
6. Arrow points to wrong hole position. Combination had to be transferred 25 numbers to open.

you are doing this, and you might just be surprised when the handle moves and the safe opens.

Since you are not drilling in any important part of the lock case or mechanism, once the hole is properly sealed and fixed, the same lock can be used if it is in acceptable condition. The cover of this 302-402 key change lock is

shown in the last picture. (See photograph 7.) The wheel pack is held on the wheel post by a Tru-Arc (outside) ring. Also shown by the direction of the arrow is where the cover relock pin is located. This pin has a dual function. If the back cover of the lock is punched off (usually by trying to punch the dial spindle) the relock pin in the body of the lock case will fire and block the movement of the combination lock bolt. If excessive heat due to a torch or a fire is applied to the lock case, then the low temperature solder the pin is installed in will melt and the bolt relock mechanism will fire. It's a true multi-purpose mechanism.

If the case relocker (relocking trigger for your purists) has been fired, then it can be defeated in a couple of ways. The hardest involves snaking a tool through the



7. Cover with three key change Mosler plastic wheels. Arrow points to thermal and punch type relock pin floating in a sea of low temp solder.

absent spindle hole and depressing the case trigger, then inserting another wire to pull the locking lever and bolt into the case. I prefer to drill for the base of the relocking pin and remove the small spring and plate. Through this same 1/4 inch hole one can usually push the bolt in too.

Good Luck! Open Mosler's and Prosper! **TNL**

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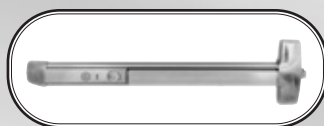
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10th Prize

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11th Prize

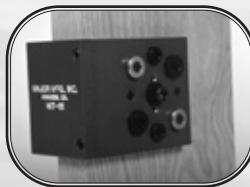
*Sargent & Greenleaf 6120
Electronic Safe Lock*



12th Prize
High Tech Tools
2001 Pro Set



13th Prize
ESP Products Sampler



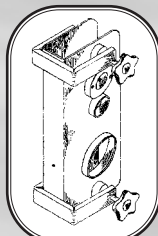
14th Prize
Major Manufacturing's
HIT-111 Drill Guide



15th Prize
Baxter #90 10-Cut
GM Try Out Key Set



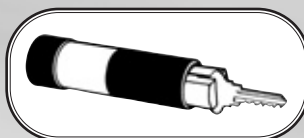
16th Prize
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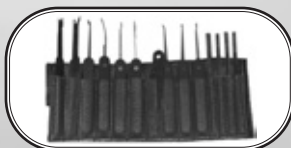
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Send in your tips, and win!

How To Enter

Send a tip on how to do any aspect of locksmithing. Certainly, you have a favorite way of doing something that you would like to share with other locksmiths. Write your tip down and send it to:

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The National Locksmith
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Or send your tips via
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Each tip submitted must include your full name, street address (no P.O. Box numbers), city, state, zip code, phone number, fax number and e-mail address. **When sending tips via e-mail make sure to include complete address and phone.**

Every Tip Published Wins

If your tip is published you will win one of the monthly prizes listed. At the end of the year, we choose winners from all the monthly tips published, that will be awarded one of the fabulous year end prizes. All you have to do to win is enter.

Prizes are arranged according to suggested retail price value.

Tips Start
on Next Page



JET KEY BLANKS WINNER: Key Decoder

When called upon to code a new GM 10-cut ignition cylinder, it can be difficult to decode the existing 10-cut key if you don't have a gauge. You can sometimes do it by sight, but since it is a sidebar lock, one wrong wafer can result in failure. Then you must figure out which wafer is wrong without a shear line to help spot the culprit.

A simple solution is a homemade key gauge, which can be made for a variety of different types of double-sided keys. Just grab the appropriate blank, (B-89 for example) cut a #1, then a #2, then a #3 and a #4, on one side of the key. Flip the key over and cut the identical cuts in the same spaces you did on the first side. Cut the remaining part of the blank off completely. Now you have a very short looking key with only 4 cuts on each side.

You can now place this gauge directly on top of the customer's key and slide your gauge back and forth until a set of cuts in the gauge visually matches the cuts in the first space of the key. Write that cut number (depth) down and do the same for the rest of the key. Now you know the cuts of the key and can code the cylinder accordingly.

Steve Zemba
California



WEDGEKEY KEY EXTRACTOR WINNER: Ford Aspire Key Generation Tip

Here is a little trick I ran into almost by mistake.

We had a customer that broke off the key to her 1996 Ford Aspire (Korean built). She originally had both pieces, but dropped the business end (with the cuts) in the snow. All she had left was the factory original rubber head of the key.

As I glanced at the key, I noticed that the rubber was torn

A Few Words From Jake...

Okay, here I am back with an on-going reminder.

If you look at the monthly prize list you will see that we give away *thousands and thousands* of dollars worth of monthly prizes each year! And, each year we have a great year-end drawing where we give away thousands of dollars more in prizes.

That means each locksmith that has a tip printed during the year not only gets a prize for the month the tip is printed but, that locksmith also has an opportunity to win one of the great prizes at the end of the year. Including the Grand Prize: A Silca machine!

There are no raffle tickets to buy, no gimmicks or gotchas. Just sit down, write up your favorite idea, trick or tip on how to make your day or a specific job go easier and send it in to me. If you can draw a little illustration to go with the tip that's fine. It doesn't have to be "good" just enough to give us an idea of what your trying to get across and we can make the drawing what it should be. We've got a great graphics department at TNL.

Take a look at this issue, look over the year-end prizes and think about whether or not you'd like to see the Big Brown Truck pull up in front of your house with one just for you. You can also email me your tip to Jake@aaamericanlocksmith.com. Just remember: whether you email me a tip, snail mail me a tip or send it by pony express. PLEASE! Include your name, telephone number and PHYSICAL mailing address! We need that information to contact you if your tip needs clarification and to send you your prize when your tip gets printed.

See y'all next month.



by Jake
Jakubowski

away, and I could see a number. Acting on a hunch, I took the key to the bench, and with a razor knife, cut off the rest of the rubber head (*See illustration 1.*)

Lo and behold, there were 4 numbers. After checking with my code information, these numbers fell within the parameters of the code series, less the letter "B".

I went to the computer and I added the letter "B" and was surprised to see that a code immediately popped up. We cut a key with the appropriate cuts. Amazingly, the key worked!

Now, every time I get a broken, bent, unreadable, or otherwise damaged original foreign car key (with the head encased in rubber) I gently cut the rubber off, and more times than not, there is the code staring me in the face. It sure beats trying to decode them.

Mike C, Merritt
Iowa

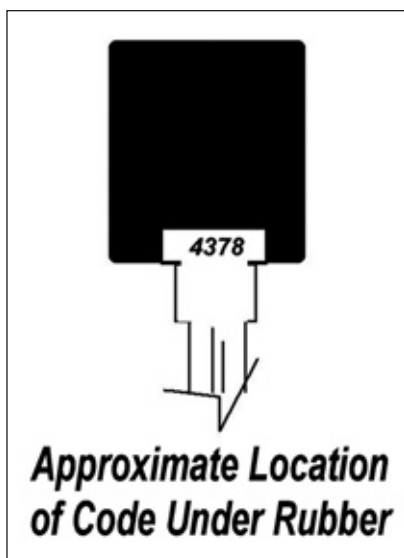


Illustration 1.

WHAT'S NEW FROM

A1

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Grand Prix '04 / Pontiac Logo
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#GMX-380
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PK3+ X'ponder
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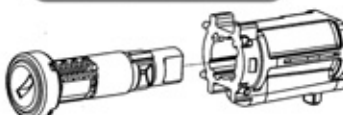
2004 MALIBU / GRAND PRIX / SRX

A1

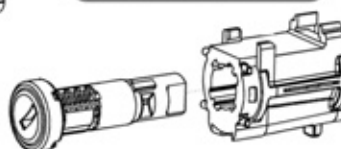
Part # 20001

ORIGINAL
EQUIPMENT

Malibu '04 # 8722



Grand Prix '04 # 7297



#16652 Chev. Colorado (B110)



#16653 GMC Canyon (B110)

A1

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**STRATTEC WINNER:
Colorado Key
Generation Tip**

I received a call on New Year's Day to make keys to a 2004 Chevrolet Colorado. It was my first encounter with this model. The truck was located at a rest area along the Interstate.

Here's what I found when I surveyed the vehicle. It has a locking cylinder on the driver's

door, the ignition and tailgate. The Colorado appeared to be one size down from the Silverado.

I attempted to contact Chevrolet Roadside for key codes. The dispatcher informed me that the codes are not yet available to them, also informing me that the VIN indicates this is a test vehicle not yet sold. Roadside also said the vehicle would have to be towed to a dealer to have it serviced. All the local dealers are closed on New Year's Day!

I then proceeded to browse the owner's manuals and Bill of Sale. I found the key code (72656 Ignition and 72565 trunk) on the Bill of Sale. The customer stated that one key worked all three locks (which turns out to be true). Great!

I again called Chevy Roadside with codes in hand, to get biting information. They again inform me that no code information is yet available—not even biting for this vehicle, yet.

The customer could not wait for two days to have the vehicle towed and then worked on. So, I informed him of the situation—new key, new code series, no information available to me, and in order for me to make a key, there will be an additional cost. He said to go ahead.

I disassembled the tailgate lock—4 phillips head screws and one 10mm nut later, I had the lock in my hand. There were enough spaces for 9 wafers. Wafer spaces 1–8 are doubled-up: wafers $\frac{1}{2}$, $\frac{3}{4}$, $\frac{5}{8}$, and $\frac{7}{8}$ are touching, and 9 is a stand-alone wafer (this was my perception at the time).

The tailgate has wafers located in spaces 3–8. I found after trying my inventory of GM blanks, none of them fit this vehicle.

Working my way through various automotive blanks, I discover an ILCO-EZ MIT1 blank fit the keyway. I did have to remove the entire shoulder all the way to the bow so it would actually fit in the door, the tailgate and the ignition. (Note: the key slides much further into ignition than into door/tailgate cylinders). After decoding the spacings and depths (four depths), on the tailgate lock, I proceeded to the door lock. The door panel proved to be simple to pull. There were three Phillips head screws and standard GM door clips with an electronic wiring harness for

maglocks, deadbolts and strikes - oh my!

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power windows and power locks, and two 10mm nuts. The door has a similar lock as the tailgate, but with wafers 1–8 used in it.

The key will fit the ignition, but will not turn the ignition. I guessed that the “9th” cut must be used in the ignition and I progressed through the four depths in this ninth position. The key still didn’t work. After questioning the customer regarding his key, he told me that a spare key does exist in Florida, where the customer is from.

I told him to have a friend photocopy the key and fax a copy to a locksmith friend of mine. The photocopy was awful and the friend traced the key as well. However, I was able to determine there were two “unknown” cuts that I had not previously decoded. That is when I decoded the door and tailgate lock, I assumed that I was dealing with an eight cut lock. Actually it was a 10-cut with the door and tailgate using cuts three through ten.

Going back to my original numbers I progressed spaces one and two on the final key and generated a working key for the customer.

Here’s the long and the short of it:

2004 Chevrolet Colorado: 10-Cut Key, Ilco EZ MIT-1 will pass (but must remove shoulder at blade height all the way to the bow).

The ignition uses all 10 spaces, Door uses spaces 3–10, Tailgate uses spaces 5–10. There is a 11th cut space, probably, for use with valet key, but not pinned on the Colorado that I worked on.

Here are the spaces as I decoded them and cut them with my Framon 2 (In inches). 1=0.380, 2=0.430, 3=0.530, 4=0.570, 5=0.680, 6=0.720, 7=0.810, 8=0.860, 9=0.950, 10=0.990, 11=1.080.

The cut depths (inches) are 1=0.325, 2=0.300, 3=0.275, 4=0.245. I used a Framon cutting wheel 8445 (84 degree angle with 0.045 inch flat).

The wafers were 0.040 inches thick.

My key showed a maximum cut difference between the touching pairs of 1 (i.e., cuts 1 & 2 or 3 & 4 could not differ by more than 1) and a maximum adjacent cut difference of 2

with non-touching adjacent cuts (i.e., 2 to 3 or 4 to 5 could differ by 2).

The truck did not use a transponder (thank goodness). Oh yeah—how were the keys lost? The gentleman had used the facilities and as he was flushing the toilet his keys slipped from his hands and were flushed away.

Jeffrey Hula
Virginia

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**HPC WINNER:
A Major Faucet Fix**

Jake, I was reading the tips in the December issue and read the one from the North Carolina locksmith about how he solved a problem for a customer regarding the theft of water from the outdoor faucets. It reminded me of a similar problem I had a few years ago and how I solved it.

A construction company was building a house next door to mine. When I left for work one morning a cement crew was pouring a slab for the garage. When I got home later that night I discovered that the crew had used the faucet on the side of my house to wash off their tools. There was dried cement splattered all over the siding and foundation of my house around the faucet. Since they still had to pour the driveway, I needed to find a way to keep from having a repeat of the incident. I thought of taking the faucet handle off, but knew that it could still be turned on with a pair of pliers.

I used one of Major Manufacturing's Kee-Blocks, snapped it over the faucet handle and the top portion of the faucet and locked it in place. It was a perfect fit! This solution may not work on every faucet due to the difference in design, but it sure was an easy fix for me!

When I returned home that evening the driveway was finished and the crew was washing tools in the street using water from the cement truck. I guess they got the hint.

*Mike Neely
Iowa*



**SARGENT &
GREENLEAF
WINNER:
Padlock
Modification**

A customer had me order padlocks with an "M" profile Best key. When I ordered the padlocks I forgot to specify slide style

capping. We do not have the tools to cap IC core cylinders! Needless to say the restocking charge made us look for a way out.

The company had purchased a small lathe some while ago and so we took an American padlock cylinder and mounted it to the sliding table of the lathe.

The padlock body was shimmed to the appropriate height and an end mill cutter was chucked in the lathe head. A small setscrew was installed to keep the cylinder from chattering during the machining process. With this we were able to machine a 1/8" wide groove along the top of the cylinder where the

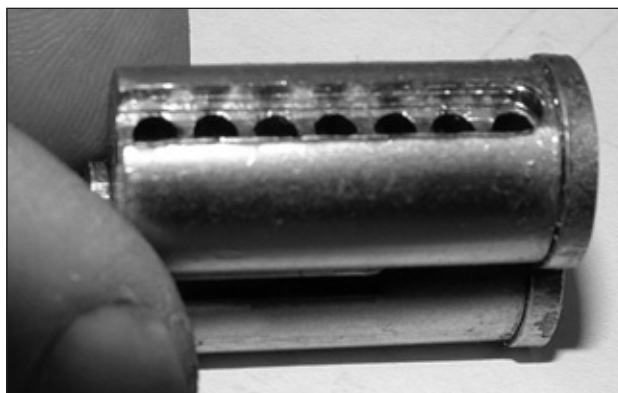
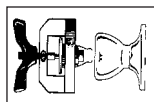


Illustration 2.

caps would normally go. (See illustration 2.) A slide from our Kaba kit completed the installation and it works like a charm. With a little bit of jig work the same principle could be used on a drill press.

*Martin Brown
Ontario*



**A-1 SECURITY
PRODUCTS
WINNER:
Triple Play**

Here's an easy way to bypass a supplement MS lock:

I learned this from a fellow locksmith years ago so I credit his clever ingenuity. This tip is for opening storefront door MS locks where the cylinder cannot be picked, for whatever reasons. The great part is no special tools or drilling techniques are required.

Start by removing the bolts that hold the pull handle to the door (must be externally mounted handle for obvious reasons). Insert a stiff wire (hanger wire works fine) through the bolt hole and down (or up, as the case may be) the stile of the door.

When you reach the lock, push down on the wire to release the locking pin on the swing-bolt, just like the lock tailpiece would do. The lock will fall open easily and the door is open! If it sounds easy, it actually is. Reinstall the handle, service the lock, and collect your money! Note that this works only if the lock is mounted below the pull handle bolt.

If the lock is mounted higher, you can remove the glass stop, carefully drill a hole in the edge of the stile just below the line where the bottom of the cylinder is located. Then you can reach in with a stiff wire and manipulate the latch.

This next tip will help save your pants, fingers and other stuff when impressioning:

If you have worn holes in your jeans, or have scars from file punctures on your leg, you will find this tip useful. I have a square patch of thick suede leather (donated from an old skirt, my wife appreciates me not ruining any more clothes) that I keep rolled up in my kit. When impressioning keys I lay it over my knee for an instant workbench. It also works great on top of file cabinets, car trunks, desks, safes, and all the other places we work.

The pad not only protects the surface you are working on, it is a soft landing pad for springs and small parts that like to bounce

further than imaginable. You can also roll up your file inside it to protect it in your tool kit.

Unscrewing those tilt column levers with their red Loctite covered threads can be difficult. To prevent scratching them and get a better grip, I cut a piece of rubber from an old tire inner tube that I put under the vise-grip jaws before clamping down on the lever. I also use the rubber pieces cut to custom sizes for making weatherproof shims to level up padlock hasps, doorplates, etc.

*James Unsworth
Canada*



**ILCO KEYBLANKS
WINNER:
Cutting Screws
and Bolts**

Sometimes I have to shorten a screw or bolt and usually use my bolt cutters. Recently I had to shorten a few screws and didn't have my bolt cutters with me.

Normally, I'd use a hacksaw but this time I chucked the tip of the screws into my drill. I turned on the drill to rotate the screw and held the screw against the blade in my hacksaw.

Before long, I had a neatly cut screw. It helps to slide the rotating screw slowly back and forth along the blade. It's best to use the extreme ends of the blade, which don't normally get used and are the sharpest, even on a worn blade.

*Ted Swirsky
New Jersey*



**KEEDEKX WINNER:
Kwikset and
Murphy's Law**

The call was simple enough. Rekey two Kwikset key-in-knob cylinders. I used my A-1 Quik Pull to pull the first cylinder and replaced it with a ready-keyed cylinder from my stock on the truck. Just a few minutes more and I'd be on my way to my next job, right?

I used my A-1 Quik-Pull on the second cylinder and snapped the blade on the tool. I put a new

blade on the Quik-Pull and tried again. The cylinder wouldn't budge. I took the knobset off the door, pulled the spindle, inserted a Kwikset removal tool and bent it trying to get the cylinder out.

I got another tool out and tried again. No luck.

I told the customer that if I couldn't get the cylinder out, I was going to have to replace the knobset. He said that wouldn't be a problem and the cylinder

probably wouldn't come out because it "fell" out one day when he unlocked it, he tried to put it back in and it wouldn't stay. He said his son Super-glued the cylinder in when he came home from school.

I got a new lock out of the truck, keyed it to the new key and left. This "simple" job took me nearly an hour more than it should have because I kept "trying" to get the cylinder out of the knob.

Removable Cores: Large Format

by William M. Lynk

"Removable Cores: Large Format" is packed with exploded views, photos, line art and various graphics, which will blow you away! Why worry about Sargent, Kaba, Schlage, CorbinRusswin, Medeco or Yale again? Get this book and have an up-to-date resource at your fingertips.

Within its covers are a multitude of pictures, charts, drawings, exploded views, diagrams, line art, clipart, comments, etc. that will aid the reader in understanding and in solving individual RC problems on your job site.

I Cores: Small Format

by William M. Lynk

Everything you ever need to know about how to sell, service, install and troubleshoot interchangeable cores!

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My tip? Don't waste time trying to do something the "normal" way if the normal way doesn't work the way it's supposed to. After several attempts to remove the cylinder, I should have realized that something was not right and offered to replace the lock. As it was, I lost money (even with the sale of the new Kwikset).

*Kelly Johnson
North Carolina*



**TECH TRAIN
TRAINING VIDEO
WINNER:**

Sight for Sore Eyes

This is for all you that have bad eyes and must wear bifocals. You have to work up close, but it is not possible for you to get your head in the right position to see through your bifocals.

Go to your local department or drug store and pick up a pair of reading glasses.

They come in different strengths and you should be able to find one that matches your bifocal. Use them and you will be able to see with your head in any position. Best of all, they are inexpensive. Mine only cost \$10.

*Carl Findley
North Carolina*

Editor's Note: Carl, thanks for the tip. If you ever forget your "reading" glasses, just take your bifocals off, turn them upside down, put them on and the bifocal part of the lens is in a position for you to see straight through it. Of course, you have to be careful not to sneeze or shake your head too hard, or your glasses with go flying!



**SIEVEKING
PRODUCTS GM E-Z
WHEEL PULLER
WINNER:**

**Sebring Trunk
Opening Tip**

The trunk release on a Sebring convertible won't operate unless the ignition is turned on. Here is a way to get in that you can keep in your bag of tricks. If the top is UP, there are just two pieces of a rug type material you have to get out of the way in order to have an open shot into the trunk.

The first piece to remove is held in place with 3 large door panel type buttons. Use a panel clip tool to pop it out. The next piece of material basically just has to be peeled back. Once you have an opening to the trunk, if you can't see the keys, you can reach in with a rod and pull the emergency release handle to open the trunk.

*Mike Moriarty
Florida*

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**MAJOR
MANUFACTURING
PRODUCTS
WINNER:
Torx Tip**

Being in the military and being used to modifying Uncle Sam's expensive toys to get them to work properly, I put my experience to work when I needed a long extension for a Torx bit; which I didn't have.

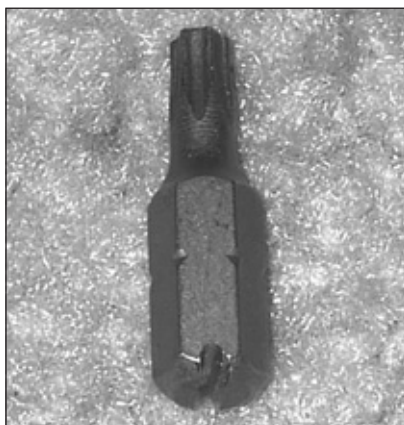


Illustration 3.

I modified my T-20 bit with my Dremel Tool®. (See illustration 3.) I cut a slot in the butt end of the bit that was wide enough to accept the blade of a flat bladed screwdriver.

Now I simply insert the bit, reach down with my long screwdriver and twist.

This has worked so well for me that I have modified all of my Torx bits just in case I need them.

*Bruce Horne
Florida*



**LAGARD WINNER:
Trim Jig Tip**

I have enclosed the pictures of a clamp that I have redesigned to hold the exterior



Illustration 4.

trim of an exit device on a door until I can secure it with screws.

If you will notice it is offset so that it will work with vertical rod or rim devices and you have plenty of room to start the screws in the head of the device. (See illustration 4.) This also worked great on the 10 exit devices with proximity locks that I had to install alone.

The unit consists of:

One "Jorgensen" E-Z HOLD II bar clamp 23" long.

One piece of 1/2" O.D. square tubing 36" long.

Two pieces of 1 1/2" x 1 3/4" x 3/16" flat steel.

Two extra pads for Jorgensen clamps.

The total length of the clamp is 13" the offset is 2" long and it is 4" deep.



Illustration 5.

The tailpiece of these clamps are spring steel, so I cut the tailpiece a 6" above the bend and welded the 13" bar to this. (See illustration 5.) When welding, just tack the bar, as it will need to be bent so that it will be square to the door. When it is square, finish the welding.

*Al Ernst
Minnesota*



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BUSINESS BRIEFS

Kaba Access Presents Awards

Roger Wright (left) of Wright Sales accepts the Outstanding Sales Achievement Award for Kaba Access Control from Rich Lang, Kaba's national sales manager.



Others recognized for outstanding achievement in representing Kaba Access Control were Kelaher Associates, outstanding Peaks performance; Stegweit & Co., outstanding electronic locks performance; Technical Sales, outstanding Simplex performance; and Anthony Deslandes, outstanding technical sales specialist. The awards were presented during Kaba Access Control's North American sales meeting in Winston-Salem, NC.

LIAA to Sponsor Security & Systems Solutions Expo

Long Island Alarm Association will be a premier sponsor of the upcoming Security & Systems Solutions Expo scheduled for June 2nd and 3rd 2004 at the Jacob Javits Convention Center in New York. The Security & Systems Solutions Expo will concentrate on

technology areas such as CCTV, electronic access control, perimeter protection, video systems & surveillance, systems monitoring, identification products and professional security services. The expo will also host a hands-on, full function lab environment on the exhibit floor.

OMLA to host Class

Oklahoma Master Locksmith Association will be hosting a class taught by Vice President Harry Sher called "Defense Against Methods of Entry." The class schedule is for one day only on May 1, 2004 from 8 AM to 5 PM at the Holiday Inn Select, 5000 E. Skelly Drive, Tulsa, OK. Material covered in this class is valuable in preparing for certification programs.

For more information call Scott Hancock (415) 557-7422 or email at hancocksc@lsb.state.ok.

High Tech Tools Moves

High Tech Tools has moved. Its new address is 1628 NW 28th St., Miami, FL 33142. The toll-free phone is 800-323-8324; local phone is 305-635-1011; fax phone is 305-635-1015.

Kaba's New Sales Reps.

Kaba Access Control is pleased to announce that effective January 1, 2004, J&J Marketing, Inc., will represent Kaba Access Control

products in Northern California, Northern Nevada and Hawaii.

ELA Hands-Free Locking and Anti Car-Jacking System

The VML_CJK hands-free system uses an Active Tag THINLIN ID that allows fully automated person identification by a SCABTx receiver. Doors automatically lock when the driver carrying the tag moves away from the vehicle, and automatically unlock when the driver approaches the vehicle. VML_CJK is fully compatible with any vehicle's original equipment.

This system is also equipped with an anti car-jacking feature to prevent vehicle theft. If a driver carrying an Active Tag is forced out of his or her car, one of the receiver's relay outputs activates a security device a few minutes after the car has moved far enough away from the victim.

Lockmasters Exclusively Distributing W-Lok

Lockmasters, Inc. is now the exclusive distributor of two GSA approved padlocks from W-Lok. The 3/8" shackle padlock included in this line is the only such model approved by GSA, meeting FF-P-2827 for Key Operated Padlocks in the General Field Service. The exclusive line available through Lockmasters also

includes a GSA approved 1/2" shackle padlock. These products are ideal for steel security chains, gate hasps, cargo closures and tie-downs, warehouse and shed doors and much more.

For more information on these W-Lok products and to place an order, contact Lockmasters at (800) 654-0637 email salesinfo@lockmasters.com.

Kryptonite Adds New Director of Sales

Kryptonite has appointed Tim Clifford as Director of Sales at its Canton, Massachusetts headquarters. In the newly created position of Director of Sales, Clifford will work to expand Kryptonite's presence in retail and commercial markets. Clifford will lead the strategic launch of new, creative retail promotions, working closely with the marketing department to insure the successful execution of these programs against targeted sales results.

Prior to Kryptonite, Clifford was National Account Manager at Master Lock Company. In his 16 years at the security products company, Clifford was in charge of the national drug and office superstore accounts.



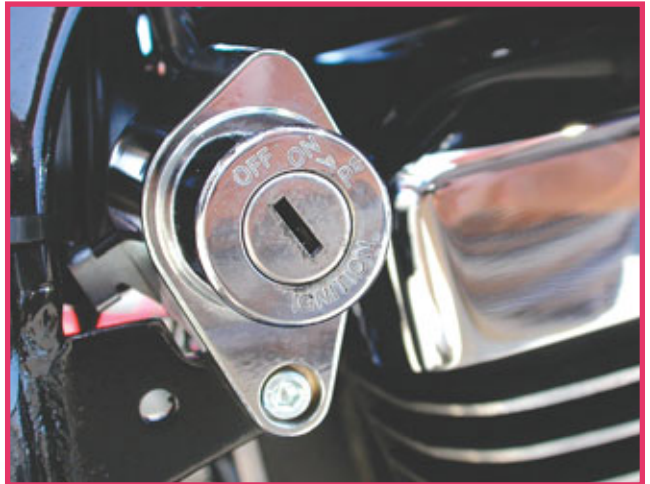
2001 Kawasaki VULCAN 1500 CLASSIC



by
John Blankenship



1. The Vulcan is a very popular cruiser and there are a lot of them on the road. There are no codes anywhere on the bike, but it is not difficult to originate a key.



2. The ignition lock is located on the left side in front of the engine. It has positions for OFF, ON and P (parking lights on, ignition off). Use a 4mm hex key to remove the one bolt that holds the lock on.



3. Remove the two Phillips screws that secure the cover to the back of the lock so you can remove the cover and switch plate. Then you can take the lock to a bench.



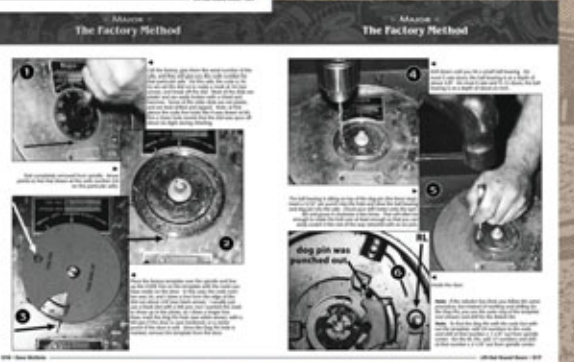
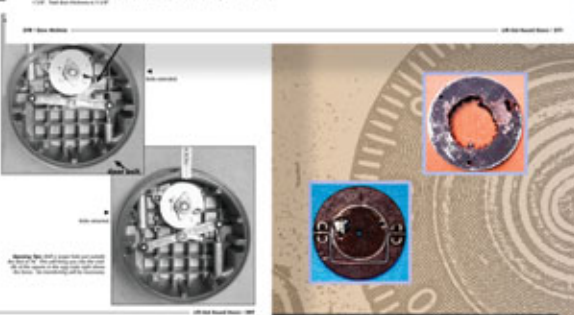
4. One or more of the contacts on the switch plate are hot so it is a good idea to place a plastic bag over it to prevent it from shorting out.

Continued on page 104

Dave McOmie on Lift-Out Round Doors from The National Locksmith®



NEW!



Dave McOmie on Lift-Out Round Doors



At long last, we are pleased to announce **Dave McOmie on Lift-Out Round Doors!** This newly published book contains 317 pages (not counting the lengthy introduction), 664 photographs, and more than 40,000 words of text. It covers just about every lift-out round door you will ever see, and a whole lot more (54 different manufacturers, to be precise). Included in the text are drill points, relocker drill points, depth to door bolts, door thickness, door diameter, and many, many tips and tricks.

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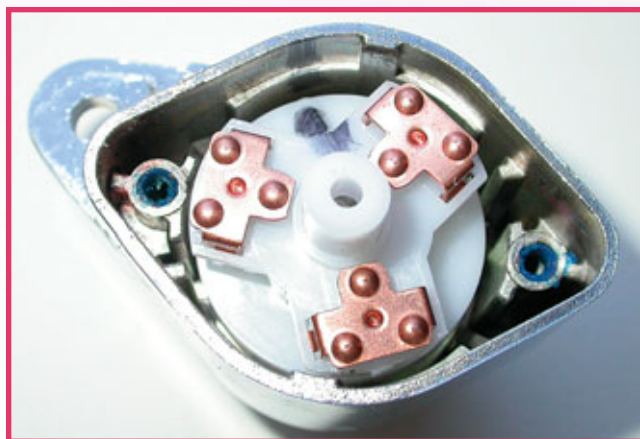
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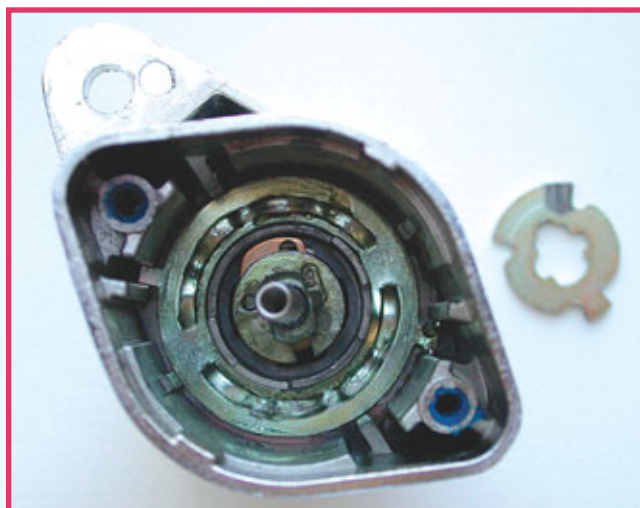
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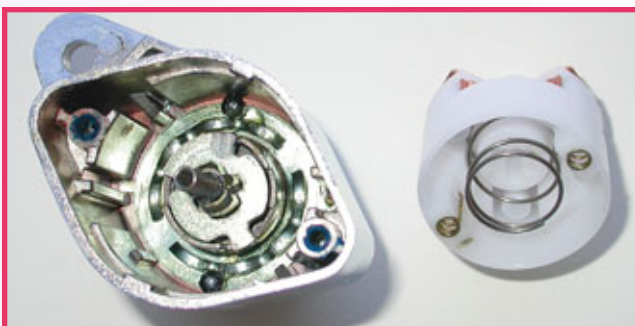
5. I marked the rotor and housing with a marking pen before I removed the rotor. It turned out that it would only go back on the correct way but it is still a good idea.



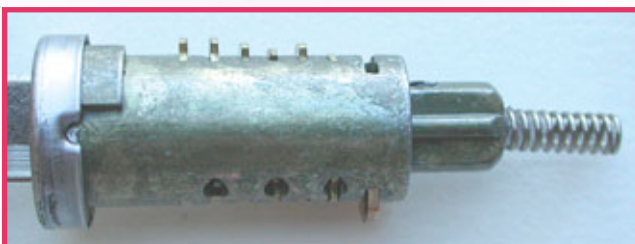
7. The stop plate has been removed and you can see the retainer on the upper side of the plug. Depress it and push the plug out the front while being careful to prevent the wafers from falling or springing out.



9. The original key is on the left. A code cut KW14R with cuts of 443231 works all four locks on the motorcycle.



6. The rotor has been removed along with the main spring and the two detent springs. The two detent ball bearings are still in place inside the housing. Use some grease to hold them onto the springs when you replace the rotor. Now remove the stop plate.



8. The plug contains six wafer tumblers and a wafer retainer. A KW14R blank inserted into the keyway shows that the cuts are 443231, which is code A132344. The letter A designates a KW14R blank and the numbers are direct read tip to bow. The spring stayed in the end of the plug so I left it there.



10. The code, A132344, is stamped on the original key.



11. The gas cap is located on the right side of the gas tank next to the speedometer. It is not a good lock to originate a key from because it only contains three tumblers but disassembly is shown. Pick it 90 degrees clockwise to unlock and open it. This lock picks easily but you are picking against spring pressure so have a small screwdriver ready to finish turning it.

Continued on page 106

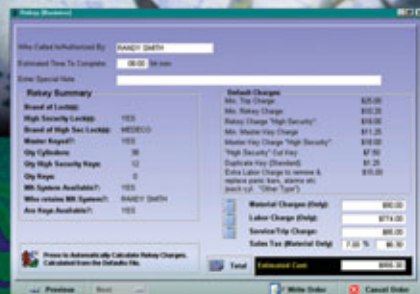
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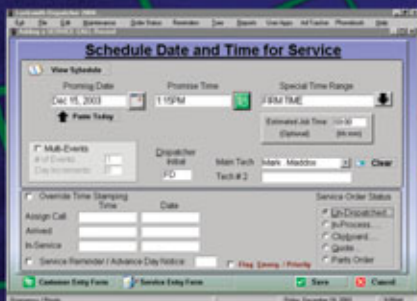
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Menu



Service Map



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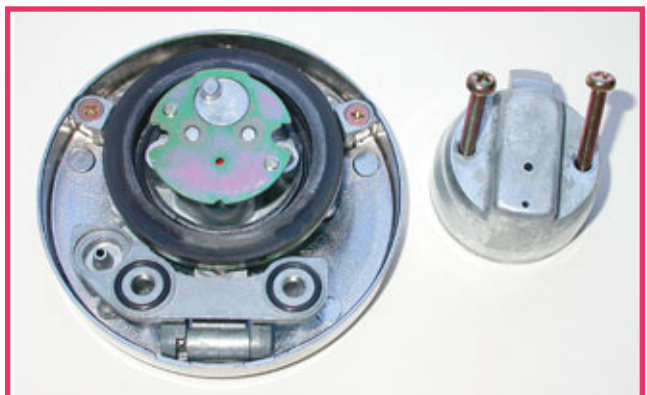
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12. Stuff a clean rag into the filler neck so nothing can drop into the gas tank. Remove the two Phillips screws from the mounting bracket and you can take the gas cap assembly to a bench. Watch the rubber gasket on the mounting bracket; it can easily fall out.



13. Remove the two Phillips screws and remove the lock bolt housing.



14. Remove the round plate and the sealing gasket with compression ring. Put some grease on the round plate and install it in the lock bolt housing before reassembly. The grease will hold it in place

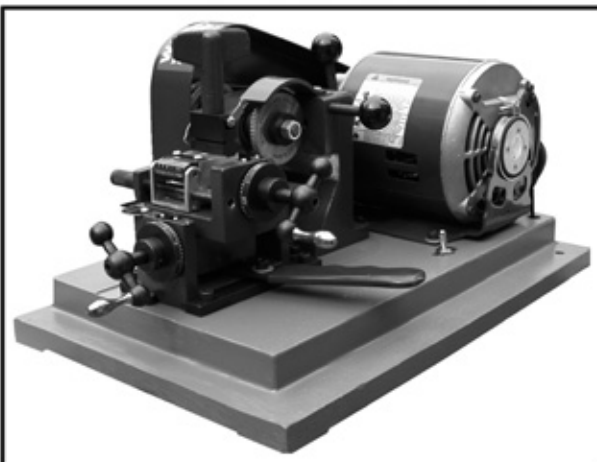
Continued on page 108

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I am utterly impressed with this level of service. Their website mentioned a two-day turnaround time for repairs, but I didn't fully believe it. It is a great experience to actually find a company that lives up to their word."

Merlin Young

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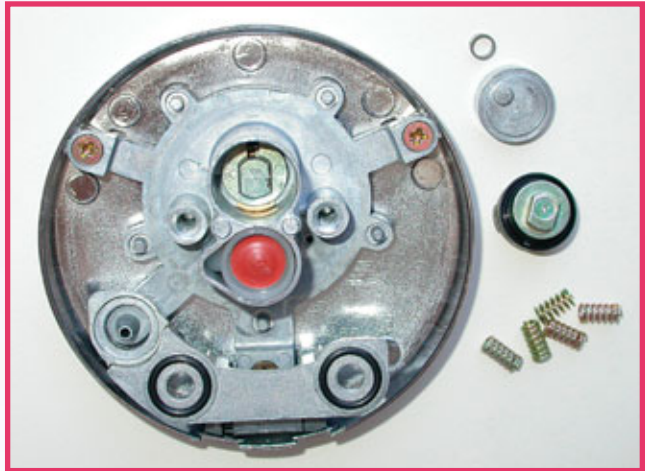
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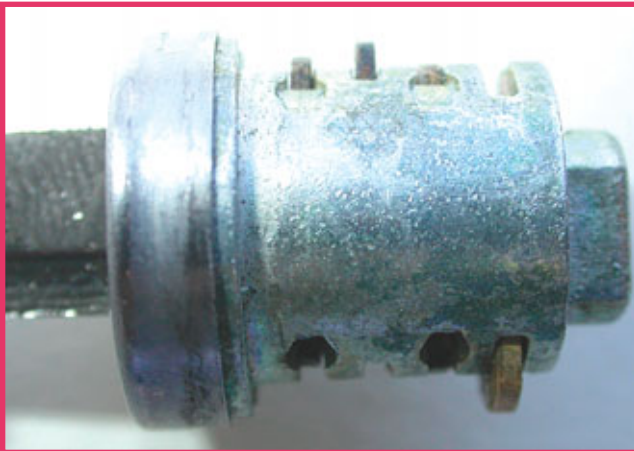
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15. Remove the 5 compression springs and then remove the outer tailpiece with the small bushing on it. Then remove the inner tailpiece with the O-ring on it.



16. Now you can see the retainer on the lower side of the plug. Depress it and push the plug out the front while being careful not to allow any wafers to spring or fall out.



17. The plug contains wafer tumblers in spaces 4-6 and the retaining wafer. A blank inserted into the keyway shows the cuts are 231. You cannot use software to aid in finding the missing cuts because the codes are direct read. You would need to progression 2-3 in the steering lock and then progression the 1st space in the ignition lock. The key is tip-stopped in the gas cap.



18. The steering lock is located on the right side where the steering shaft passes through the frame. It is shown with the dust cover closed.



19. The steering lock is tricky to work. It is common for the owners of motorcycles that have this type of lock to tell you that it does not work when it actually does. You need to turn the steering all the way to the left or right and then turn it back slightly so the bolt on the back of the lock will align with the slot in the steering shaft. Turn the lock about 45 degrees counterclockwise and push it in. You may need to slowly move the steering back and forth until the lock will push in all of the way. Then, turn it back to the locked position and the steering is locked. When you unlock it, you may need to wiggle the steering to unbind the bolt so it will spring back out.

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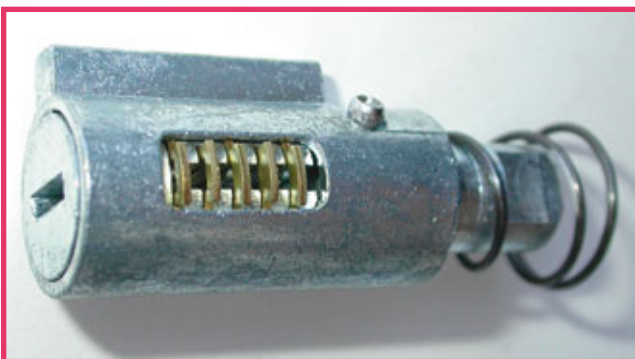
Circle 348 on Rapid Reply



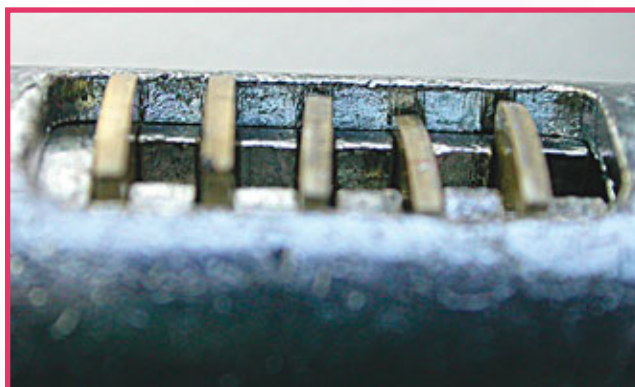
20. To remove the steering lock you need to pry off the dust cover. The pin that holds it on is pressure fit and you can pry it out with a screwdriver.



21. With the cover removed the lock will slide right out if it is unlocked. I picked it 45 degrees counterclockwise without too much trouble. Unlocking it aligns the locking pin with the pin chamber housing.



22. The steering lock has been removed and returned to the locked position. The spring on the back of the lock stayed on so I left it there. The lock contains five wafer tumblers in spaces 1-5.



23. A blank inserted into the keyway shows that the cuts in the first five spaces are 44323. Progression the 6th space in the ignition lock to obtain a working key.



24. After replacing the lock, use a hammer to drive in the dust cover pin.



25. There are two helmet locks on this motorcycle. They are located on both sides of the rear fender. I had to remove the saddlebag to gain access to this one.

Continued on page 112

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1998-00	GS 400
2001-04	GS 430
2001-04	GS 300
1998-00	LS 400
1999-02	LX 470
1999-03	RX 300
1998-00	SC 300
1998-00	SC 400
2001-04	IS 300

Toyota

1998-02	4Runner
1998-04	Avalon
1998-03	Camry
2001-04	Highlander
1998-02	Landcruiser
2000-04	MR2
2001-02	Sequoia
1998-03	Sienna
1999-03	Solara

Immobilizer Control Unit Reprogramming

Lexus

2003-04	GX 470
2003-04	LX 470
1997	LS 400
2001-04	LS 430
2002-04	SC 430
2004	RX330 (Japanese)
2004	RX330 (Canadian)

Toyota

2003-04	4Runner
2003-04	Camry V6
2003-04	Solara
2003-04	Landcruiser
2001-04	Prius
2004	Sienna
2003-04	Sequoia

Honda/Acura

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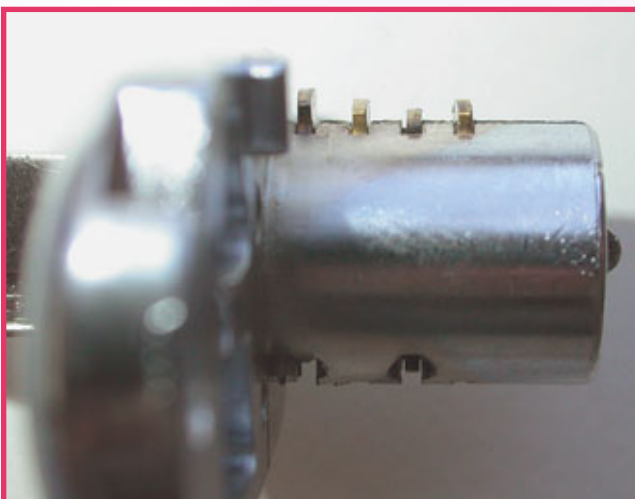
Circle 351 on Rapid Reply



26. I easily picked the helmet lock 45 degrees clockwise. Now remove the Phillips screw and you can take the lock to a bench.



28. There is a detent ball bearing on top of the detent spring. Be careful and do not lose it. The helmet lock contains four wafer tumblers in spaces 2-5.



29. A key blank inserted into the keyway shows the cuts for spaces 2-5 are 4323. You can progression the 1st space in the helmet lock and then progression the 6th space in the ignition lock to obtain a working key.



27. Remove the two tiny Phillips screws so you can remove the retaining plate and push the plug out the front. Be careful and do not allow any wafers to fall or spring out. The raised area between the screws is the tip stop for the key.

These codes are direct read tip to bow:

Codes: A111111-A444444 use Ilco: KW14R, Curtis: KA17, Silca: KW14R

Codes: B111111-B444444 use Ilco: KW14, Curtis: KA18, Silca: KW14

Spacing: 1=.315, 2=.413, 3=.512, 4=.610, 5=.709, 6=.807

Depths: 1=.295, 2=.276, 3=.256, 4=.236

Card Number: CMC51

DSD Number: 421

ITL Number: 260

Curtis: KA-1 Cam & KA-1D Carriage

Tumbler Locations: 1 2 3 4 5 6

Ignition:	x x x x x	Ignition:	1-6
Gas Cap:	x x x	Gas:	4-6
Steering:	x x x x x	Steering:	1-5
Helmet:	x x x x	Helmet:	2-5

TNL

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Taking Industry Products for a...

TEST DRIVE

Ford Lock Pawl Kit

by Auto Security Products (ASP)



THE NEED:

From time to time I am sure all of us have broken, or lost a pawl for the door of a Ford vehicle. It isn't hard to do because as often as not, we do not have to take the inside panel off to get the lock out. Instead, we just remove the retainer and slip the lock out far enough to get it off the pawl and do our thing. In the cold the pawls get harder and are more likely to snap, like it sometimes does in northern climates like mine.

Even if you think you have the best and most common pawls in stock, it seems like the one most likely to break is not the one you have, but the opposite of it or maybe a less common one than you stock. Second-guessing the parts we need is an occupational hazard we all engage in if we are locksmiths. Often we are wrong.

THE ANSWER:

Auto Security Products (ASP) heard the need and has given us an assortment of pawls second to none for Ford vehicles. Well known for auto locks and kits, ASP has included pawls for the old style 10-cut as well as the new style 10-cut locks and has added pawls that are often hard to find. Included are

pawls for Escort, Villager, Quest, T-Bird, Crown Victoria, Econoline Vans and Ford Trucks, as well as some more universal pawls and locking rod fasteners.

The nice thing about this assortment is that many of the various pawls can be reordered individually by number, and the numbers are printed right on the locator sheet. For the most part, ASP has included just one of each of the pawls, but, the more common ones like locking rod fasteners have two of each. In fact, there are so many different pawls included that the kit contains two boxes of 18 styles each. The number for the kit is A-42-301.

USING THE KIT:

The kit contains a wide assortment of pawls out of necessity. How can you be sure you are using the correct pawl for your application? ASP has taken care of that concern as well. They have listed the application for each part on the cover of the box. Some of the applications are even complete with the year that they apply if they are a specialized part. An example of that is the 1996 T-Bird door pawls, numbers P-42-319 and P-42-320. Others will show

IN SUMMARY:

DESCRIPTION: A Ford Motor Company lock pawl assortment containing 35 different pawls for a wide range of vehicles.

PRICE: Suggested retail of \$39.95

COMMENTS: A kit that fills the need to have a wide variety of pawls at your ready disposal. You need this kit.

TEST DRIVE RESULTS: The first time I needed a pawl due to breaking one I was working with, I found the pawl quickly in this kit and the time saved on this one job more than paid for the price of the complete kit.

a range of years for the application, such as the Ford Escort locking rod fastener for years 1991-95.

If further help is needed, contact ASP. They are very knowledgeable and willing to help you get the correct part.

Price: The ASP suggested retail price for the A-42-301 is \$39.95.

CONCLUSIONS:

ASP has put together a fine assortment of parts for Ford Motor vehicles and this is a kit you need to have in your assortment if you work on Ford vehicles. The quality of the product is good and the applications are varied.

The value of the parts far exceed the price of the kit since the parts range in retail price from \$2.50 to over \$5.00 each, and the kit contains 40 pieces. The kit is available from many locksmith wholesalers or you can contact ASP at:

Auto-Security Products

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Redmond, WA 98073

Phone #: 425-556-1900

Fax #: 425-558-1205

Email: info@carlocks.com

Website: www.carlocks.com





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